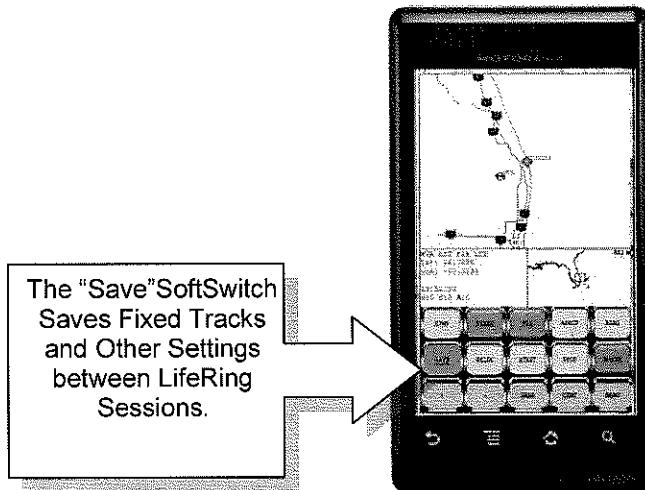


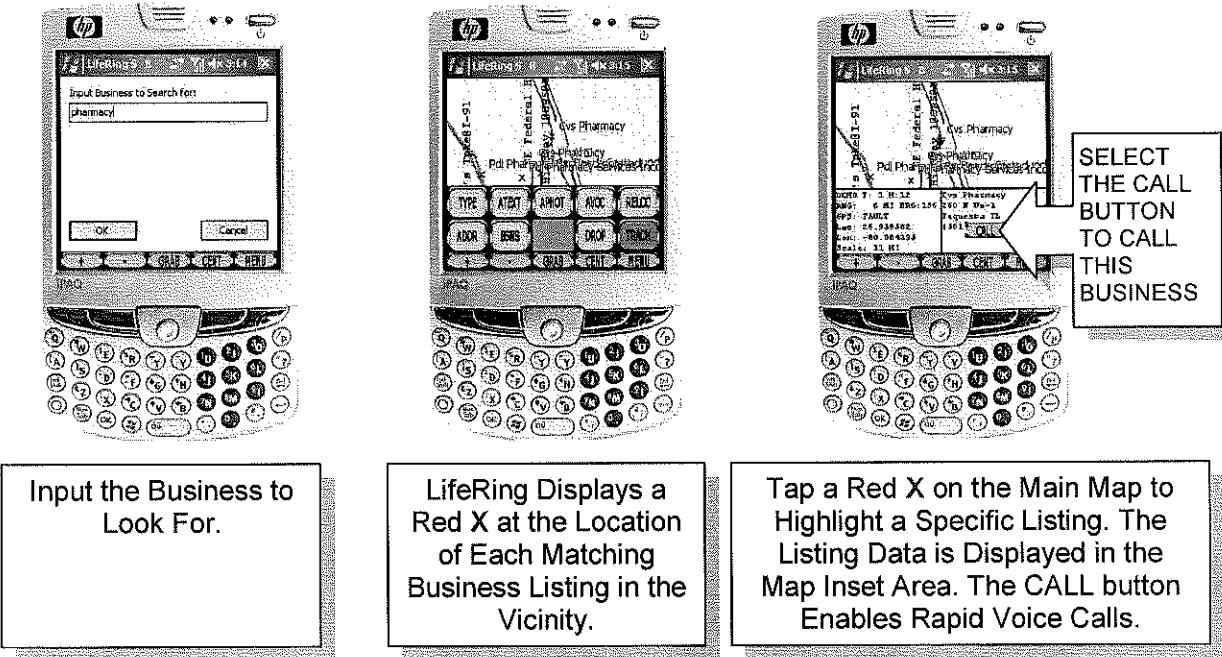
**The Edit Fixed Track Box on the LifeRing PDA Screen.  
Select the Fixed SoftSwitch to Edit a Fixed Track.**

#### 4.1.3.9 Save.

The Save Function enables the LifeRing user to retain certain settings between LifeRing Sessions. One such setting is the Fixed Track. Other settings that can be saved include the present zoom level and location of the local track as a starting position at the next session. To save these settings, the LifeRing user must select the Save SoftSwitch.

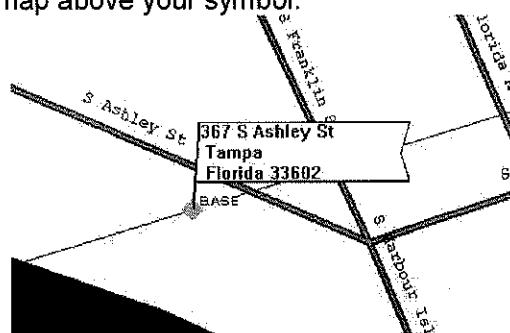


**LifeRing Save to Retain Settings between Sessions.**



#### 4.1.3.6 Reverse Address (RADDR).

The reverse address SoftSwitch enables the LifeRing user to acquire an address based on the location of his symbol. If you do not know the address of your location, select the RADDR (reverse address) SoftSwitch. The closest street address to your location will be displayed on the main map above your symbol.

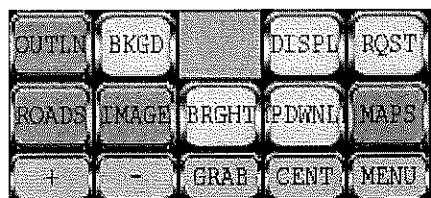
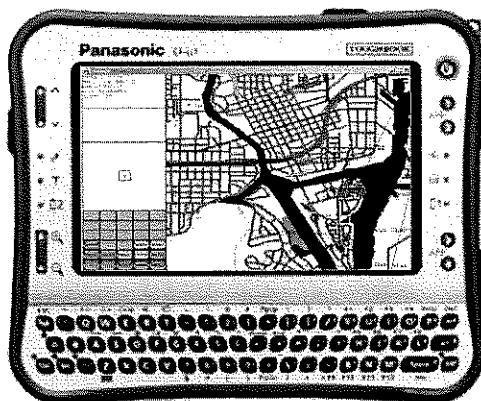


A Banner Displays the Current Address Associated To Your Symbol

#### 4.1.4 MAPS.

LifeRing recommends installing an SD (Mini Memory Card), to improve your PDA's map capacity. There are two ways to acquire maps for your LifeRing device.

- a. If activated, the LifeRing Network Server "pushes" maps to the LifeRing Participant. As the user travels, The LifeRing software evaluates its existing cache of maps and automatically receives and installs new maps to best illustrate the local symbol location. LifeRing evaluates its memory allotment and will only install maps to its capacity. To activate the acquisition of maps press the CENT SoftSwitch.
- b. If you wish to acquire large numbers of maps from the LifeRing Network Server, center on the vicinity for which you want maps and select the RQST SoftSwitch LifeRing will begin to acquire maps in a spiraling method until you deselect the RQST SoftSwitch.



#### MAPS FUNCTION SOFTSWITCH.

##### 1. LifeRing uses maps of three general classifications:

- a. OUTLN (Outline Maps).  
Include:  
COAST (displays coast lines).  
STATE (displays political boundaries).  
WATER (displays rivers and waterways).
- b. ROADS (displays roads). Vector Maps.  
Example: Tiger Line maps.
- c. IMAGE (displays aerial and satellite photographs). Raster Images.  
Example: GeoTif images.

##### 2. The BKGD (Background) SoftSwitch changes the map background from light to dark.

LifeRing software automatically selects the map image that best correlates with the zoom range of your display.

If you prefer another map selection, you can deselect the map type and LifeRing will utilize the next best map.

##### 3. The BRGHT (Bright) SoftSwitch controls the brightness or darkness of the mapping screen.

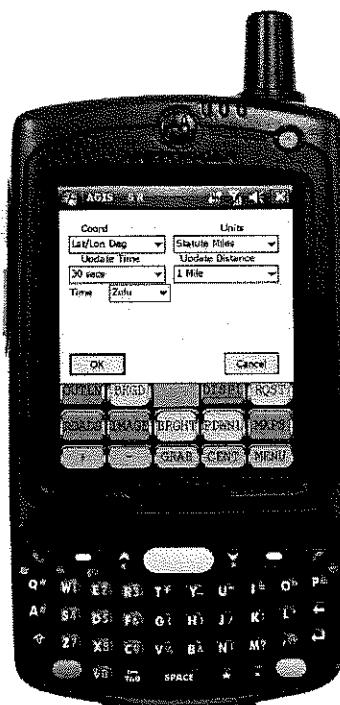
##### 4. The RQST (Request) SoftSwitch sends a command to the LifeRing Network Server requesting maps.

#### 4.1.4.1 The DISPL SoftSwitch.

The Display SoftSwitch enables both the PDA LifeRing user and the PC LifeRing user to configure LifeRing coordinate display and update rates on the move. The LifeRing user can change the LifeRing display coordinates from Latitude/Longitude to MGRS or UTM. The LifeRing user can also configure LifeRing to display in statute miles, Metric or Nautical. The LifeRing user can configure the UPDATE rate and the local unit time display using the LifeRing Display menu.

The Display screen enables the LifeRing user to change both data formats and reporting intervals.

- The LifeRing user can configure LifeRing to display in Latitude/Longitude, Latitude/Longitude Deg, UTM and MGR.
- The LifeRing user can configure LifeRing to display in Statute miles, Nautical miles and Nautical miles and Kilometers.
- The LifeRing user can change the LifeRing Update time from 30seconds to one minute to five minutes to ten minutes.
- The LifeRing user can change the LifeRing update distance from  $\frac{1}{2}$  mile to 1 mile to 2 miles.

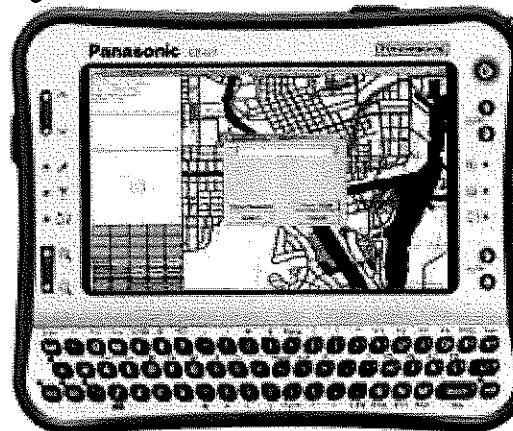


#### PC Distinctions.

The Display function serves as the PATH screen for PC LifeRing. In addition to the configuration functions the DISP screen serves as a configuration screen that provides the LifeRing user the ability to create paths for Photographs, Video, Video Player, Audio, Audio Player and Camera. The configuration of these paths is important because it determines where LifeRing will go to access these files.

#### 4.1.4.2 Map Download.

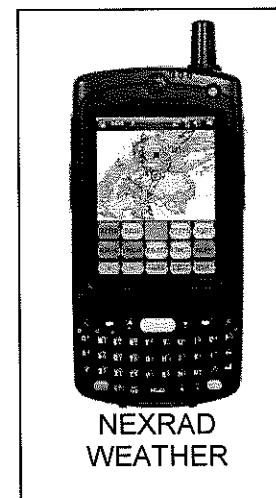
The Map Download SoftSwitch enables the LifeRing user to request specific map data to be pushed by the LifeRing network server. Select the Map Download SoftSwitch. Select the scroll bar to view a list of the available map sources. Highlight the map source to obtain that image.



The Map Download Screen  
Displays a List of Available  
Map Data.

The currently available LifeRing maps are:

- GNC Maps
- JNC Maps
- ONC Maps
- TPC Maps
- JOG-A Maps
- NEXRAD Weather (Dynamic)
- Landsat 7 Imagery Pseudo
- Landsat 7 Imagery Natural
- DOQ (Grayscale Aerial Imagery)
- DRG (USGS Topo maps)
- NIMA/USGS (Hi-res Imagery)



#### 4.1.4.3 Clear Static.

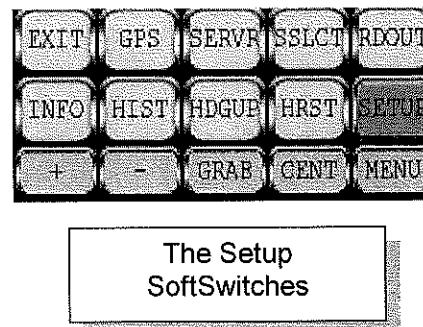
The clear static button clears all static images from the main map. Currently all images downloaded to the LifeRing Main Map area are static images with the exception of the NEXRAD weather image.

#### 4.1.4.4 Clear Dynamic.

The Clear Dynamic button clears all dynamic images from the main map. At this publication, the only dynamic images the user can download are the NEXRAD weather images.

#### 4.1.5 SETUP.

The **SETUP** SoftSwitch matrix has nine actions:



##### 4.1.5.1. INFO (Information).

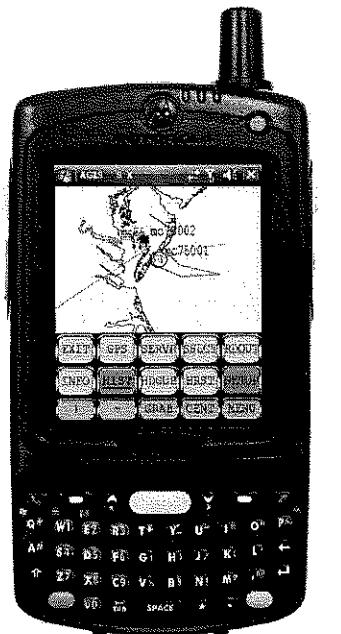
The Info SoftSwitch causes the display of the Information Screen.

The Information screen enables the LifeRing user to monitor the GPS data as it is received by this local LifeRing device. The Info screen also enables the LifeRing user to view the Setup screen. The setup screen displays important information concerning the configuration of this subject device. Information such as the update rate, server, screen resolution and LifeRing Version number can be determined from the Info screen.

##### 4.1.5.2. HIST: (Display History Trail).

The History Trail is a vector that connects previous symbol plots. The history trails are designed to convey prior movement. The History SoftSwitch is activated by default. To stop the display of History trails deselect the HIST SoftSwitch.

Note: a hooked symbol will always display a history trail.

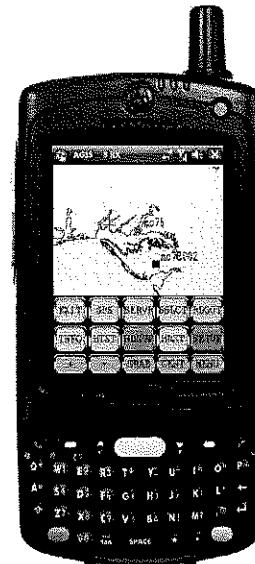


HOOKED SYMBOLS WILL  
ALWAYS DISPLAY THEIR  
HISTORY TRAILS EVEN IF  
HISTORY TRAILS ARE  
TURNED OFF.

HISTORY TRAILS.

#### 4.1.5.3. HDUP: (Heading Up).

The Heading Up Action SoftSwitch causes the map to be rotated in the direction of travel. A North pointing arrow appearing in the upper right-hand corner of the screen indicates the direction of North. By not selecting the HDUP SoftSwitch the LifeRing user is choosing to have a North UP map orientation.



THE HEADING UP  
SOFTSWITCH  
CAUSES A RED  
ARROW TO  
DISPLAY ON THE  
MAIN MAP  
INDICATING THE  
MAP DIRECTION OF  
NORTH.

HEADING UP.

#### **4.1.5.4. The HRST (History Trail Reset).**

SoftSwitch erases all history trails. After the old history trails are erased, new history trails will be displayed unless the HIST function is deactivated.

#### **4.1.5.5. EXIT.**

The EXIT SoftSwitch Causes the LifeRing program to fully terminate. To minimize the LifeRing software to access other applications, Select the "X" at the top right of the PDA LifeRing display. NOTE: The "X" at the top right of the PC LifeRing display does terminate the LifeRing application. To minimize the PC LifeRing software select the traditional Microsoft minimize button. 

#### **4.1.5.6. GPS.**

The GPS SoftSwitch displays a graphic illustration to rate the number and signal strength of the satellites.

Green = excellent

Yellow = fair

Red = poor



Three satellites are required to determine your position. Four satellites are required for altitude.

When the Main Map is enlarged, the letter "G" keyboard key causes the display of the actual GPS data.

#### **4.1.5.6 SERVR (SERVER).**

To change LifeRing network servers click or tap on the SERVR button.

Also, the LifeRing user can select to pull auto Vector maps from the LifeRing Server as well as auto Raster maps. The LifeRing user can configure the application to continuously try communications and to send voice alerts.

The SERVER screen enables the user to configure these values:

1. GPS Port.  
(The physical or virtual port where LifeRing will find NEMA GPS data).
2. Server IP Address and Port.  
The IP address and port of the LifeRing network Server.
3. Video Source.  
The address or link where other LifeRing users can access the video being transmitted by this unit. For example, AGIS Incorporated has a video source at <http://24.123.109.30/>. This video source is transmitted to all associated LifeRing participants and displayed in the mini map inset area when that symbol is hooked.



**4. Auto Maps.**

Auto Maps configures LifeRing to automatically receive maps from the LifeRing Network server. There are several ways LifeRing can acquire maps. One of these ways is to have them pushed from the LifeRing Network server. To enable the import of either vector or raster maps the user must check the appropriate box. Be aware that the LifeRing Network server cannot push maps if it is not configured to do so. Checking the box on the SERVR screen empowers this LifeRing device to request maps from the server.

**5. Try Communications.**

The Try Communications SoftSwitch is a function that enables the user to discontinue his devices attempts to establish communications. LifeRing is instructed to continuously attempt to establish connectivity if it is unable to find an IP socket. Should LifeRing determine that the flow of data has been disrupted, it is configured to break down the IP connection and re-establish a new one. The "Try Communications" box can be unchecked If the LifeRing user is aware that an IP connection is not possible. This action will stop LifeRing from continuously interrupting the screen in attempts to establish a connection.

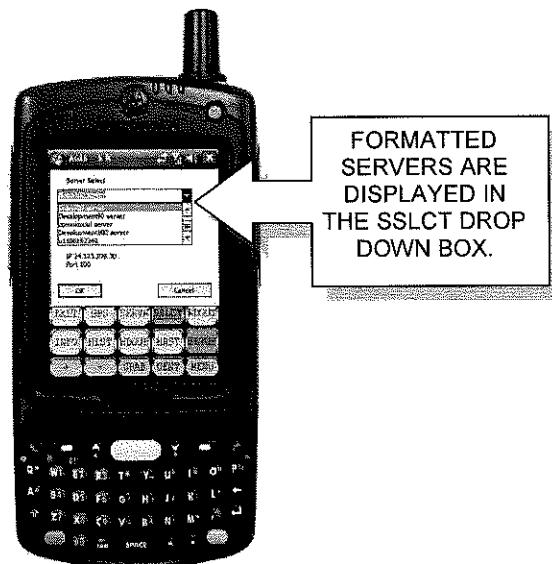
**6. Send Voice Alert.**

LifeRing is configured to cause other associated participant devices to relay an audible announcement upon the receipt of a message. Obviously a user that doesn't want to receive an audible announcement can silence his device by lowering the volume. Should a user wish to silence the delivery of an audible announcement to another user the Send Voice Alert box should be unchecked.

#### 4.1.5.7 SSLCT Server Select.

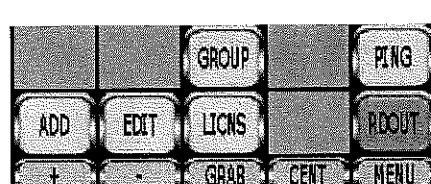
The Server Select displays a list of formatted servers to select. To change servers click on the SSLCT SoftSwitch. A drop down dialog box will display a list of a pre-formatted LifeRing servers that. The LifeRing user should note that a listing in the SSLCT screen does not insure that the subject server is active.

The purpose of the SSLCT softswitch is to easily transition between LifeRing servers. Should the user wish to use a LifeRing server that is not listed in the SSLCT screen, use of the SERVR function is required.



#### 4.1.5.8 RDOUT (Read Out).

The Action SoftSwitches affiliated with the Readout Switch matrix pertain to the interoperability between LifeRing participants. LifeRing participants do not exchange position and status data until they create associations.

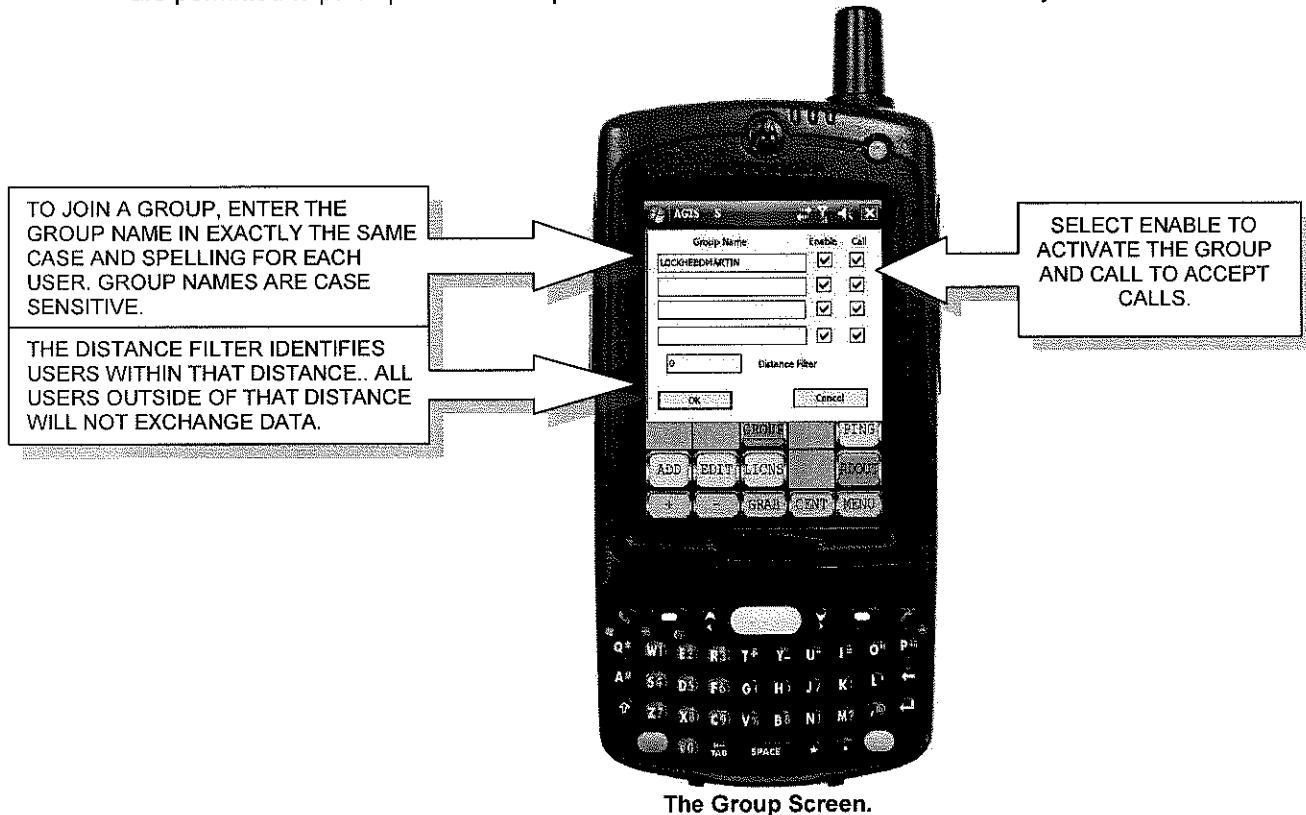


The Read Out Switch Matrix.

#### 4.1.5.8.1 GROUP.

The GROUP SoftSwitch is a LifeRing association function for users to join a larger association and see the real time status and position of users with similar responsibility. LifeRing Network Participants create a LifeRing Group Association by entering the keyword assigned to that specific Group, (i.e. TCC). This function can be password protected.

The initiating LifeRing user accesses the GROUP Screen by selecting the GROUP SoftSwitch and creates the group "TCC". All participants that enter this keyword will form an instant open association and begin to exchange position and status information with all other participants that do the same. This function is less secure than the Private Association (Mutually Consensual) because any participant that enters the correct keyword will become associated. The Group Association function is primarily intended for rapid deployment of multiple units. LifeRing users are permitted to participate in four separate GROUP associations simultaneously.



Any LifeRing participant can join a Group association provided that they enter the appropriate keyword. For users that require a more private association LifeRing offers the Mutually Consensual Association.

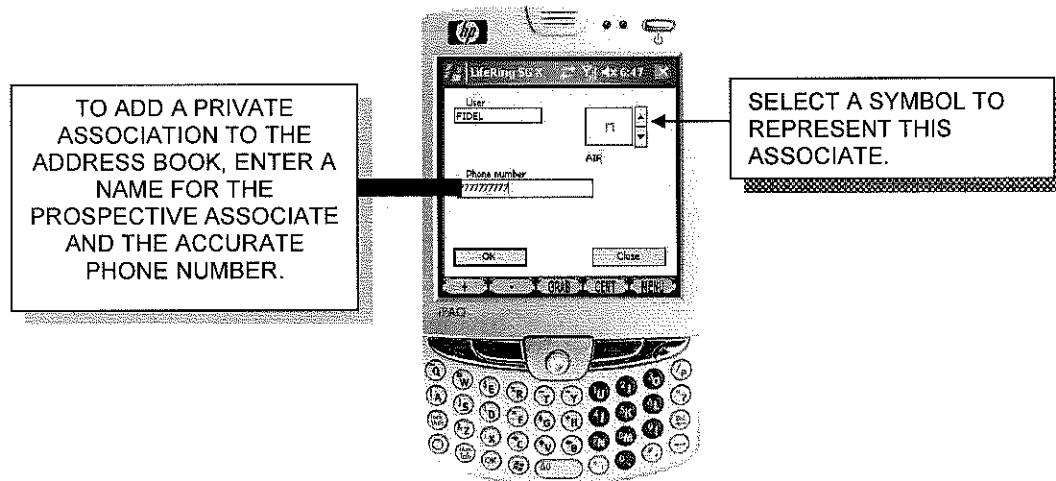
#### 4.1.5.8.2 ADD - Create a Private Association.

##### (Mutually Consensual Association).

The ADD SoftSwitch is a LifeRing "association" function designed to configure a private association (Mutually Consensual). To create a Private association, both consenting participants must "add" the user name and phone number of the other to his respective address book. This is accomplished through the use of the ADD SoftSwitch from the RDOU (Read Out) switch matrix. Each participant has flexibility in choosing a name for the prospective associate but the phone number must be precise. The LifeRing Network server differentiates between participants by their phone number. An Inaccurate phone number will result in a failure to create a Private association.

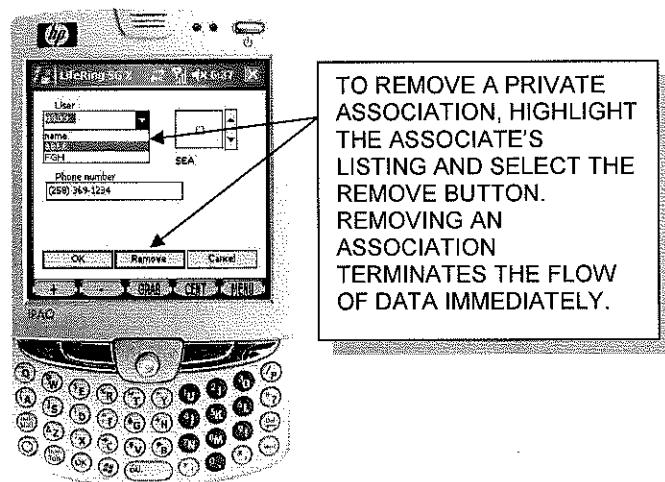
Adding a participant to the address book, (when reciprocated by the other LifeRing User on his device), creates a LifeRing Private association. Once each party has entered the correct association information, the LifeRing Network server begins to exchange position and status information. This type of association is more private because the only associates that will exchange data are the associates that have exchanged address book listings.

In addition to the fact that a Private association is mutually consensual, the Private association is also private because of the EDIT SoftSwitch.



#### 4.1.5.8.3 EDIT.

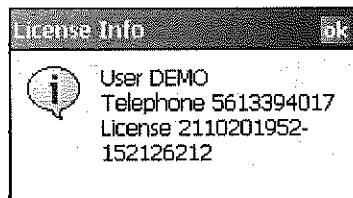
The EDIT SoftSwitch enables the LifeRing user to edit an entry to the Address book. A participant can change the name and symbol assigned to an associate. More importantly, a LifeRing user can REMOVE an associate from the Address book and stop the exchange of position and status information. Removing an associate from your Address book immediately stops the exchange of information.



The EDIT Screen.

#### 4.1.5.8.4 LICNS (License).

The License SoftSwitch causes the LifeRing participants Name, Telephone Number and License Key to display.



The License Info Screen.

#### 4.1.5.8.5 PING.

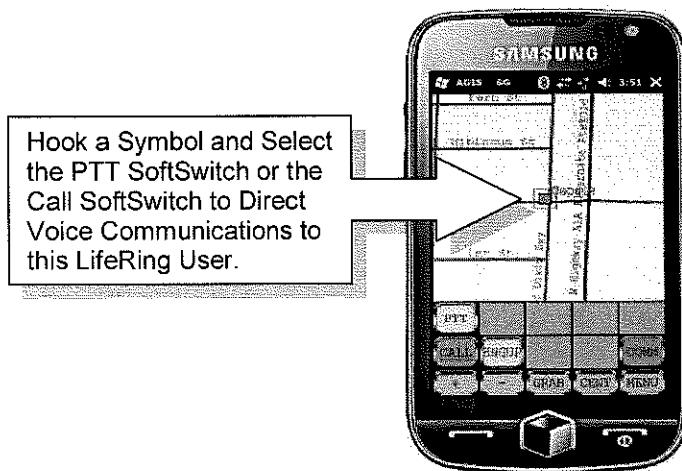
The PING SoftSwitch transmits a digital command to all associated LifeRing participants through the LifeRing Network Server causing them to report. The PING is used to update the position and status of associates between their preset reporting interval. When the LifeRing user selects the PING function, all associated LifeRing symbols go lost, (symbols begin to blink). As the associates begin to update, the associated symbols return to normal.

#### 4.1.6 COMM (PDAs and PCs Using both Cellular and IP).

(Voice Communication)

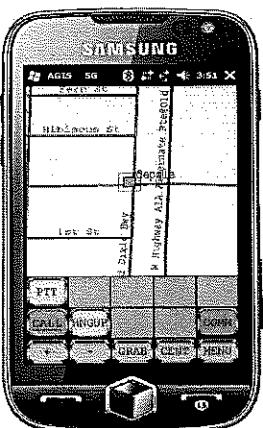
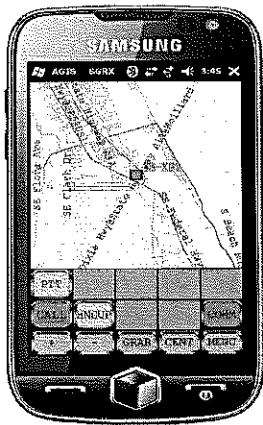
LifeRing supports "HOOK-2-CALL"™.

The COMM SoftSwitch Matrix includes The CALL, PTT and the HNGUP (hang up) SoftSwitches.



**Hook-2-Call Enables LifeRing Users to Voice Call Each Other without the Necessity to Know Each Other's Phone Number!**

#### 4.1.6.1 CALL (Hook-2-Call).



**A Traditional Voice Call using LifeRing's Patented Hook-2-Call. The Solid Purple Square Symbolizes That a Voice Connection Exists.**

1. To make a voice call to another LifeRing associate, the LifeRing operator first hooks the symbol of the LifeRing user(s) he wants to call. Hooking can be achieved either by clicking on an associated user symbol on the LifeRing Main Map or by selecting a user from the PLIST. Up to two user symbols can be dialed using the conventional cellular CALL function

2. The hooked (addressed) user's symbol appears with a

dashed box frame, indicating the LifeRing unit to whom the call is to be placed (the framed symbol is the intended addressee). Select the "CALL" Action SoftSwitch. The dashed box changes color from green to purple as the call is dialed.



3. Selecting the Call SoftSwitch located in the COMM Action SoftSwitch matrix causes the call to be placed to the hooked LifeRing unit(s) through the PDA's traditional cell phone apparatus.

4. Once the call is connected the receiving unit's symbol is framed by a solid colored square on the LifeRing Main Map.

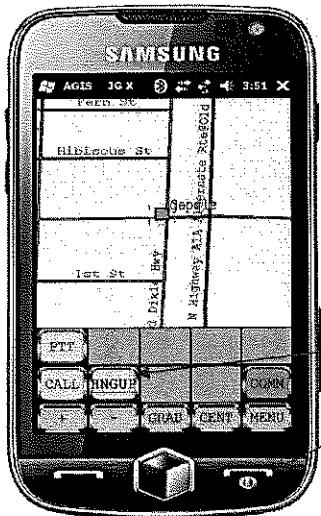


5. To terminate the call tap or click the HNGUP (hang up) SoftSwitch or manually press the hang up button on the phone.

Most PDA cell phones are only capable of cellular voice or digital data at one time. Unless your PDA cell phone supports simultaneous traditional cellular voice and digital data, digital communication with the LifeRing network Server will be interrupted during a voice call. Be sure to make sure the call is terminated. LifeRing will not join the Network Server until the voice call is completed.

Don't worry, once the call is terminated, LifeRing will automatically re-establish a data connection with the Network Server and "Catch up" on information that was missed. This is the real benefit of a Server oriented "thick" client communications network (a system with LifeRing software installed on it). The "thick" client LifeRing units continue to gather data even during interruptions in communications. When the data connection is returned, LifeRing updates all relevant information.

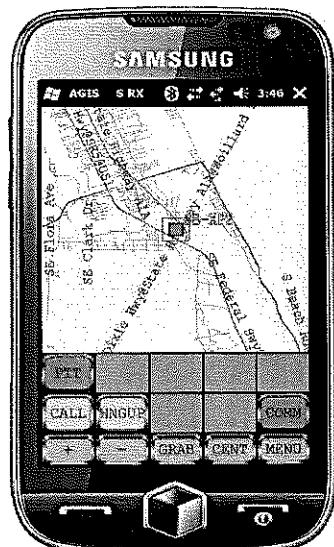
6. To make a call to someone that is outside of the LifeRing Network, minimize the LifeRing software and use the PDA cell phone's standard cell phone capability.



The HNGUP SoftSwitch or the Phone's Hardware Hang up Button Will Terminate a Traditional Cellular Voice Call Made with LifeRing's Hook-2-Call Function.

The Hangup (HNGUP) SoftSwitch will terminate a "Traditional" Voice Call activated through LifeRing.

#### 4.1.6.2 PTT (Push to Talk).



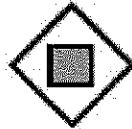
LifeRing Push to Talk (PTT) uses Internet Protocol (IP) to exchange voice. LifeRing PTT converts sounds into digital data to be transmitted over IP channels where they are translated back to sounds on the receiving LifeRing device.

Since LifeRing PTT is digital, LifeRing continues to exchange data with the LifeRing Network Server during PTT voice exchange (a clear advantage over standard cellular voice).

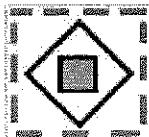
Digital PTT is initiated by the LifeRing User in the same manner that standard Hook-2-Call is done.

To PTT call another LifeRing user hook the intended addressee from the LifeRing Main Map or from the PLIST. The intended recipient of the PTT voice is highlighted by the same green perforated box as the standard Hook-2-Call feature.

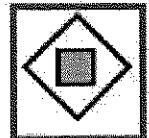
To initiate the PTT voice transmission, depress and hold the virtual PTT SoftSwitch. Wait for the traditional PTT Chirp before speaking.



A Blue Diamond shape Surrounding The LifeRing User Symbol indicates This device is available to receive PTT.



A Hooked Symbol ready to Receive PTT.



A hooked Symbol Receiving PTT Data.

After the PTT "chirp", you can speak; Continue to depress the PTT SoftSwitch while speaking.

Release the PTT SoftSwitch to hear the other speaker.

**Note:** If the handset or PC makes no response after the PTT SoftSwitch is depressed, this indicates that the PTT connection has not been established. Release the PTT SoftSwitch, wait five seconds, and try again. You must hear the PTT "chirp" before speaking.

Incoming PTT is signified by the incoming PTT alert prior to the actual voice.

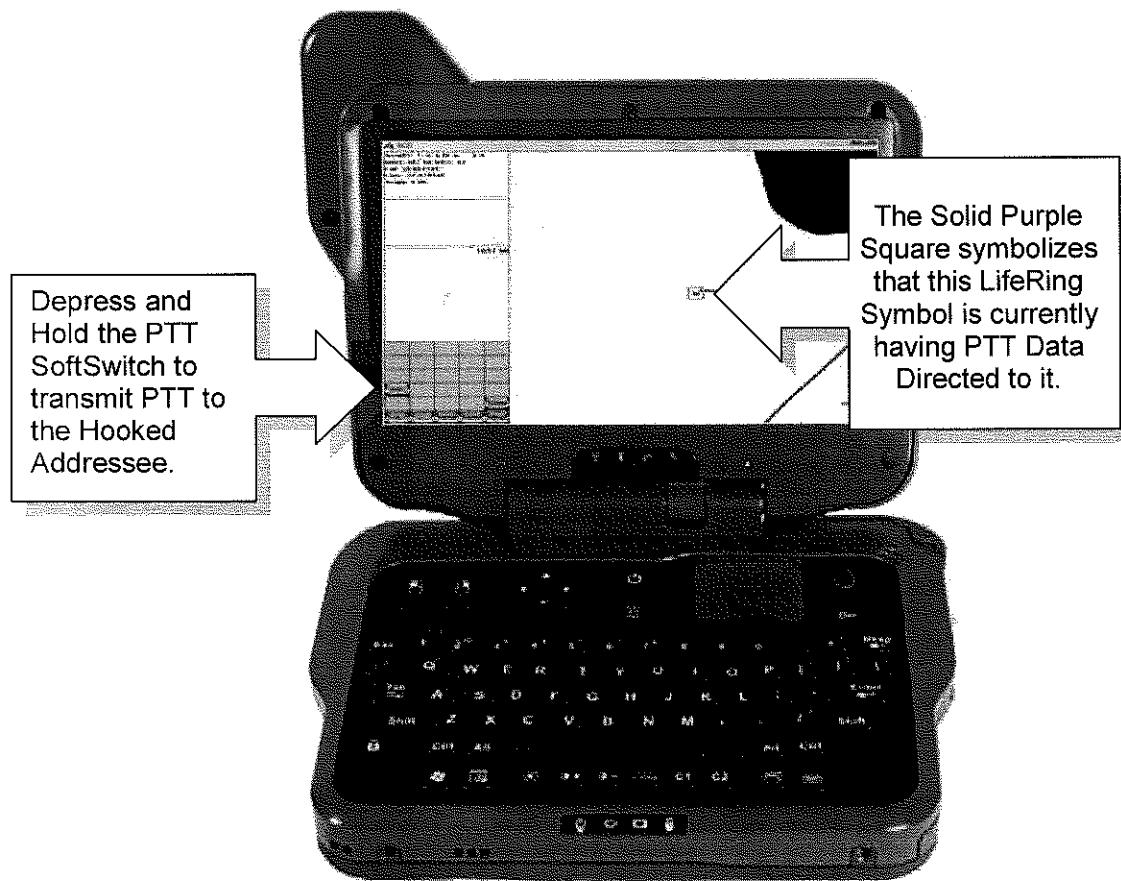
Not all LifeRing users may have the PTT function activated. LifeRing users that do have PTT are symbolized by a blue diamond shape surrounding the symbol.

While PTT is being transmitted to the designated LifeRing user the "hooked" symbol transforms its color to a solid purple shape to symbolize that PTT data is being directed to this recipient(s).

**Warning:** Consider all PTT data exchange for what it is; namely data packets exchanged over various communication methods (most notably cellular telephony). Do not assume a voice message has been received. Ask the intended recipient to acknowledge receipt of your message.

Sufficient band width is required to support LifeRing PTT. Certain communication methods may not support LifeRing PTT even though the blue diamond shape indicates that the user is registered for PTT. The blue diamond shape symbolizes that the user is registered to receive PTT but not necessarily capable of receiving it.

If PTT goes unacknowledged after several attempts, we suggest that you try an alternate means of communication with this user such as CHAT, Free Text Message or White Board.



PC LifeRing PTT requires that the local subject PC device be configured correctly to broadcast and receive PTT. A properly configured microphone for the transmission of PTT data and a speaker for the reception of PTT data are essential. Additionally, a volume control is necessary to sufficiently increase the volume level to prevail over background noise. AGIS recommends the use of a noise cancelling headset for such environments.

Currently, LifeRing PTT may be directed at one addressee, more than one addressee or all associated users. To direct PTT data to one addressee:

- Open the COMMS SoftSwitch matrix and
- Hook the user symbol from the LifeRing Main Map or highlight the user label from the LifeRing PLIST.
- Depress and hold the PTT SoftSwitch and wait for the traditional PTT “chirp”.
- Following the “chirp”, speak clearly into the PC or PDA’s microphone.
- Make sure to ask for a response from the intended addressee.

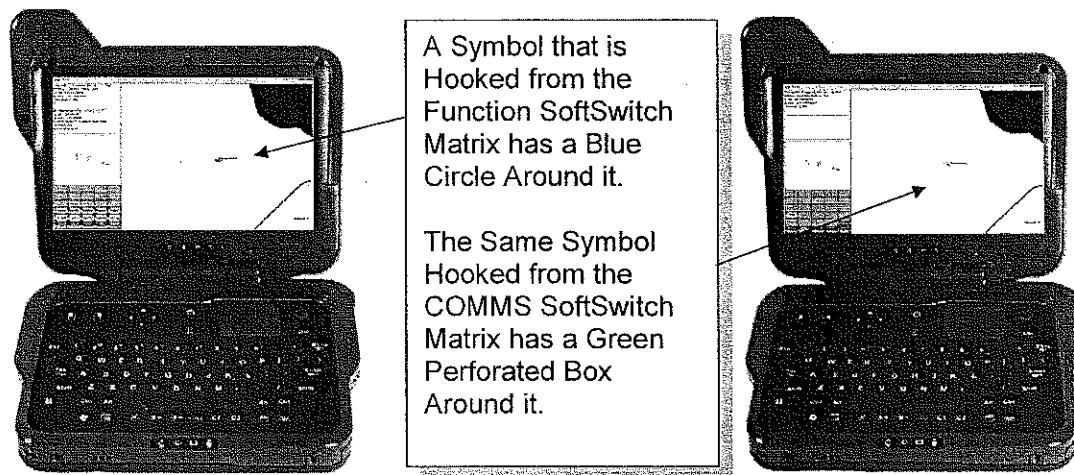
There is no reasonable limit to the number of users that can participate in PTT provided that the PTT software is configured to do so. However, LifeRing users who wish to PTT to several associated users, but not all of them, are limited because of the LifeRing system paradigm. At this publish date the only way for a LifeRing user to direct PTT to more than one associated user but not to all, is to hook the desired addressee symbols on the LifeRing Main Map. (The PLIST will not allow for multiple user hooks). A LifeRing user can only hook one associated user at a time from the PLIST. Because of the proximity of the user symbols on the Main Map and the zoom level that may be required to view all user symbols at the same time, it may be difficult to hook only the desired addressee symbols simultaneously.

To make a LifeRing PTT to all associated users however, is easy. The LifeRing user attempting to PTT all associated users need only tap or click on the LifeRing Main Map until all symbols are unhooked. When no symbols are hooked, the LifeRing PTT is directed to all associated users.

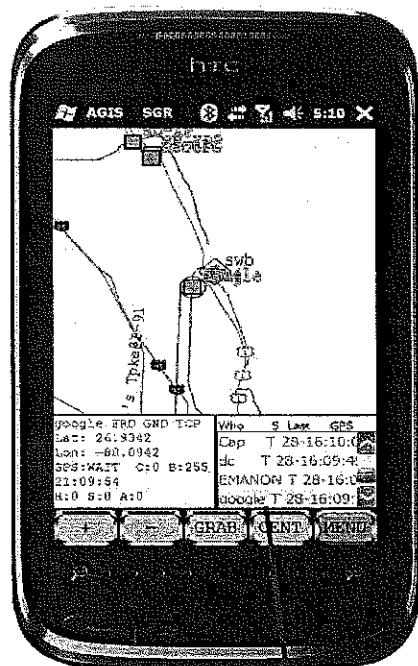
We recommend practicing the hooking and unhooking of symbols while in the COMMS Action SoftSwitch matrix to become comfortable with the procedure and to ensure that voice data is transmitted to the intended LifeRing associate(s). Tap or click on a user symbol and observe that the green perforated box symbolizes that this symbol is selected to receive data.

Next tap or click on the same symbol to observe that it is now "unhooked". Recognize that every symbol that you tap on to hook, you must also tap on to unhook while you are in the COMMS Action SoftSwitch Matrix.

This is not the case if you exit the COMMS SoftSwitch Matrix and go up one level to the Function SoftSwitches. While in the Function SoftSwitch matrix it is possible to unhook a symbol simply by tapping or clicking on the map.



#### 4.1.7 PLIST (Participant List).



##### PLIST (Participant List).

1. The PLIST SoftSwitch causes the status of the current associated participants in the LifeRing communications net to appear in the LifeRing Inset Area.

It displays:

- a.) The unit's name.
- b.) Connected to TCP or Local.
- c.) The last time the unit reported.
- d.) The unit's GPS Status.

2. Tapping a participant's name in the PLIST automatically hooks that unit's symbol on the Main Map. This enables the LifeRing Operator to locate and contact the active associate without locating his symbol on the Main Map.

3. As soon as an associate's symbol is hooked from the PLIST, the Main Map will automatically center on that associate's symbol.

4. LifeRing Associates that declare an EMERGENCY will be displayed in the PLIST in red.

5. The PLIST automatically updates as associated participants join the COP, (Common Operational Picture).

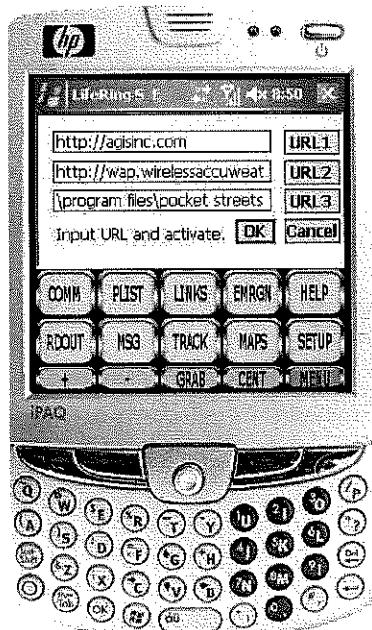
EMANON T 28-17:08:3?
google-T 28-17:08:2?
la T 28-17:08:1S
miami T 28-17:08:1S
NRL T 28-17:08:0S
PDA4 T 28-17:08:2?
sb-XP T 28-17:08:1?
SB-XPZ T 28-17:04:0?
ScotPC L 28-17:08:10
seab1 T 28-17:08:1S

SELECTING AN  
ASSOCIATE ON THE  
PLIST  
AUTOMATICALLY  
HOOKS THAT UNIT'S  
SYMBOL ON THE MAIN  
MAP AREA.

#### 4.1.8 LINKS.

It is important to realize that LifeRing need not dominate as the PDAs sole activity. LifeRing can run in the background while other PDA applications and Internet sites are utilized. The LINKS SoftSwitch accesses the links screen. The purpose of the LINKS screen is to offer the LifeRing user easy access to links that are habitually accessed or that require rapid access. The LINKS function can spawn any application or compatible web site provided the user has installed the correct URL or application address.

To install an application or a web site tap the LINKS SoftSwitch and enter the exact address of the site or application. Select the associated URL button and LifeRing will minimize itself and spawn the other application or initiate Internet Explorer and access the site.



The Links Screen.

Precisely type in the URL, or the program executable address.

LifeRing will not search for an application that is improperly addressed.

Tap the associated URL button and LifeRing will spawn the appropriate function and also save this address in the URL box on the LINKS screen.

#### 4.1.9 EMRGN (Emergency).

A LifeRing user may press the EMERG (Emergency) SoftSwitch. This action will cause a red triangle  to surround his symbol on the Main Map for all associates to see. A voice alert "EMERGENCY RECEIVED" will transmit to all participating LifeRing Associates and a capitol E will display on the Task Bar of every associated LifeRing device.

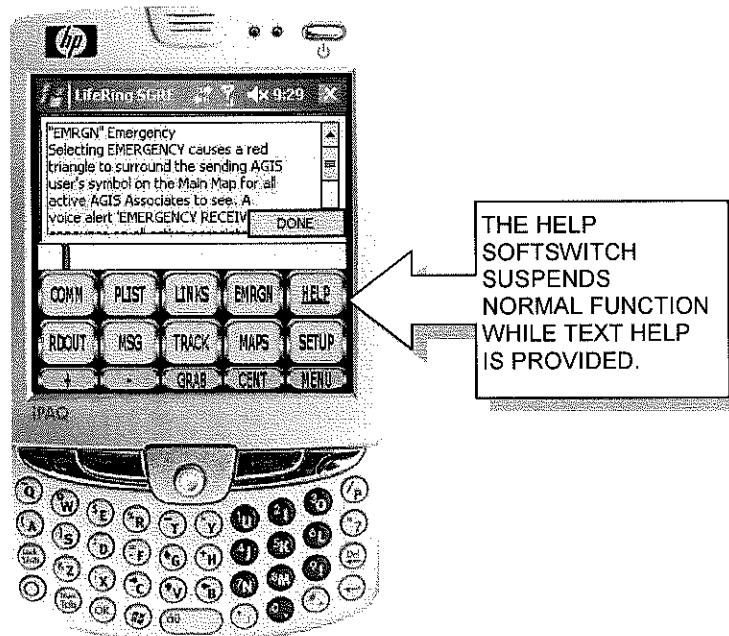
Only the LifeRing unit that has sent an EMERGENCY can cancel it.

To cancel an emergency, tap the EMRGN SoftSwitch again.

Associated participants declaring an Emergency display their name on all PLISTS in red.

#### 4.1.10 HELP.

The HELP SoftSwitch suspends normal LifeRing functionality while the user receives a text tutorial on the subject of the selected SoftSwitch. To determine the function or action associated with a SoftSwitch select the HELP SoftSwitch and tap the SoftSwitch in question. A text tutorial box will display with associated help. No functions will be initiated while the HELP function is active. To return to normal function select the DONE button.



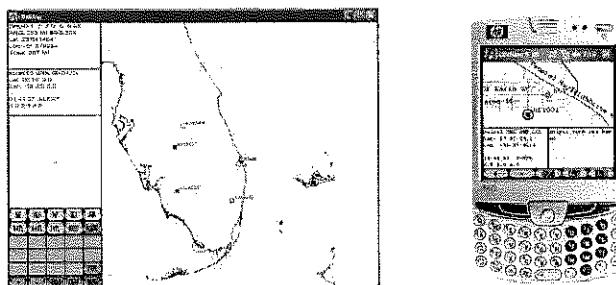
The Help Text Screen

## 5.0 Introduction TO PC LifeRing.

PC LifeRing is a Microsoft® Windows PC version of LifeRing. The PC LifeRing adaptation is designed for more stationary environments such as a vehicle or command center, or it can be deployed on a Tablet PC or tough book.

Unlike the vertically oriented PDA LifeRing screen, the PC LifeRing screen is oriented horizontally (landscape). It is assumed that the PC LifeRing operator can typically use both hands to work a keyboard and a mouse. Then again, apart from the screen orientation, PC LifeRing is designed to work the same as the PDA version. This familiarity makes it is easy to shift between both adaptations.

Thus, all of the PC LifeRing display screens are recognizable to PDA LifeRing users.



PC LifeRing does have certain advantages over the PDA LifeRing units.

### 5.1 Advantages of the PC.

Not so long ago PCs processed much faster than PDAs and had a hardware floating decimal point which made map processing much faster. Today, however, PDA developers are closing the gap. With the advancements in Secure Digital storage disks (SD cards), even the PCs superior storage capability is waning.

PCs do still have better screen resolution and as a result they can provide clearer visual images.

PCs also have more capability to utilize additional interfaces.

PCs have better audio technology.

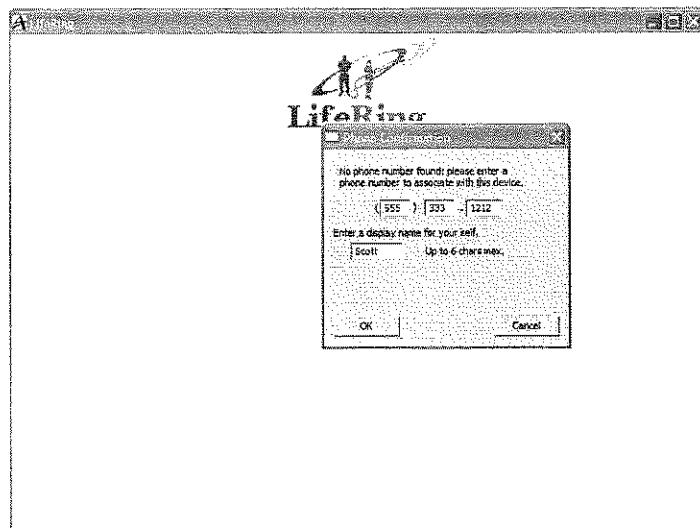
Most notably, PCs allow the operator to perform additional functions simultaneously on the same screen. As an example, a PC LifeRing unit can display the tactical LifeRing Software Display and conduct an IP video conference call simultaneously on the same desktop. PDA devices can run multiple applications but they can only display one at a time.

## 5.2 PC LifeRing OPERATIONAL DISTINCTIONS.

In view of the fact that the PDA LifeRing software is very similar to that of the PC LifeRing version, this section is dedicated to describing the operational differences.

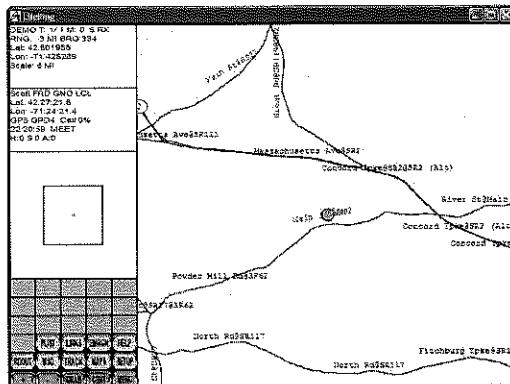
## 5.3 LifeRing ACTIVATION.

To activate PC LifeRing double click the AGIS SYMBOL located on the Microsoft® Windows™ Desk Top or from the Programs Menu. The PC Version of LifeRing will appear.



When LifeRing initiates on a PC for the first time, the LifeRing application software asks the user to add a phone number and a user name to associate with his computer. Personal Computers, laptops and tablets do not always have a cellular modem and( even if they do) many commercial cellular providers do not permit voice calls using standard cellular PC-MCIA or USB "air cards". For this reason, PC LifeRing does not support Point-2-Call like its PPC counterpart.

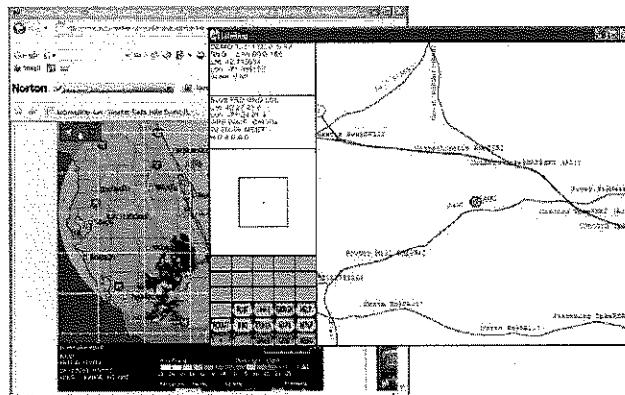
It is suggested that the LifeRing user insert a phone number that is nearby to his device. For example: a nearby desk phone or a personal cell phone that is not running the LifeRing application. It is important to note that the LifeRing Network server uses the participants phone number as a unique identifier. Therefore it is important that the LifeRing user install an actual phone number. Participants identifying themselves with the same phone number will be bumped as duplicate participants.



The PC LifeRing Display.

#### 5.4 LifeRing Screen Display.

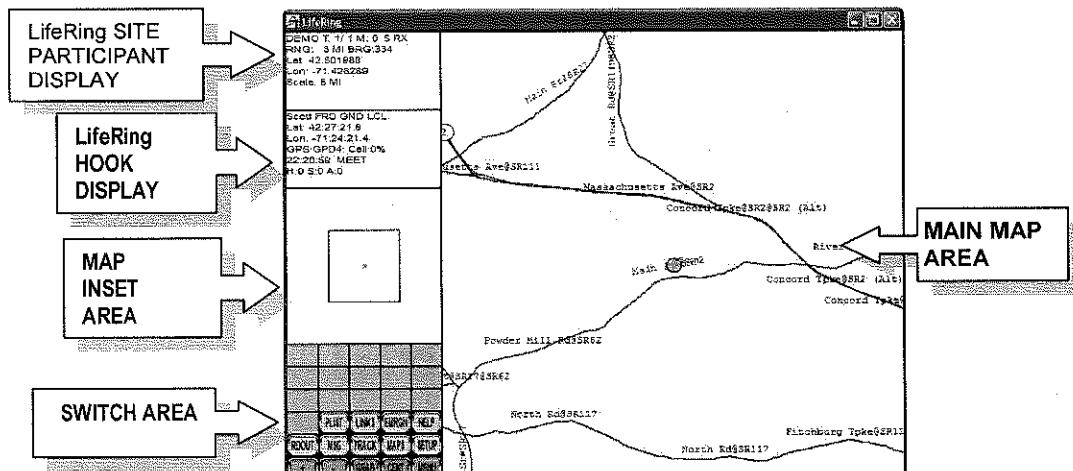
The PC LifeRing Display Screen contains all of the same information as the PDA LifeRing and like the PDA LifeRing the PC LifeRing Tactical Screen can be minimized to reveal additional software. Additionally, the PC LifeRing screen can be relocated on the Windows™ desktop. This feature permits the PC LifeRing USER to Multi-Task.



Run Multiple Applications

Because of the greater screen real estate enjoyed on the PC screen, PC LifeRing permits the LifeRing Switches to be independent and not require them to overlay the LifeRing Multi-functional and Insert Areas. Instead of four LifeRing PDA Display Areas, The PC LifeRing display consists of five Display Areas:

1. LifeRing Site Participant Display.
2. LifeRing Hook Display.
3. LifeRing Map Inset Area.
4. LifeRing Switch Area.
5. LifeRing Main Map Area.



PC LifeRing Display Areas.

#### 5.4.1 Data Locations.

One obvious difference between the two LifeRing Software Versions is the absence of the Microsoft Navigation Bar at the top of the PC LifeRing screen. The information contained in the Microsoft Navigation Bar is relocated throughout the PC Display.

The X (Program Minimize) is replaced on the top right of the PC LifeRing display. It is now the familiar program minimize, program maximize, program terminate symbol. Note: The red "X" at the top right of the PC LifeRing Display does terminate the LifeRing application.



To minimize the PC LifeRing software select the traditional Microsoft minimize button.



Battery Low Alert= The Low Battery alert is located on the Windows display.

Connection to the IP server= Located in the Hook Readout Area.

Cell Signal Strength= Located in the Hook Readout Area.

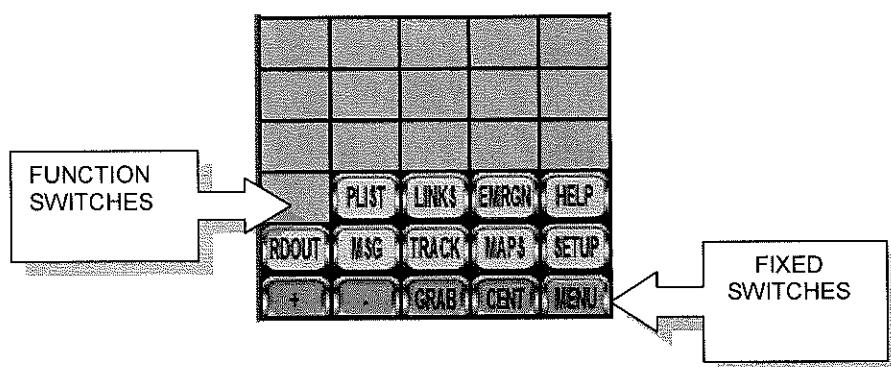
#### **5.4.2 Mouse VS Stylus Differences.**

The PC LifeRing screen is not always touch sensitive as it is with the PDA Version. Instead, of touching the screen, the PC LifeRing operator may need to use the mouse as the selection device. To place a cursor on the Tactical Map Area the LifeRing operator maneuvers the mouse arrow to the desired point and right clicks the mouse once. To hook a track the LifeRing operator left clicks the arrow when it is near a track. Maneuvering the cursor arrow without right or left clicking the mouse provides range data and bearing data in the Site Participant Area. To select a desired switch the PC LifeRing User maneuvers the mouse arrow to the desired switch and left clicks the mouse once.

#### **5.4.3 Fixed Switches, Function and Action Switch Differences.**

PC LifeRing simultaneously displays both the Fixed Switches and the Function Switches.

Selecting a Function Switch still reveals that Action Switch Matrix associated with that function. The Fixed Switches always remain displayed at the bottom of the display.

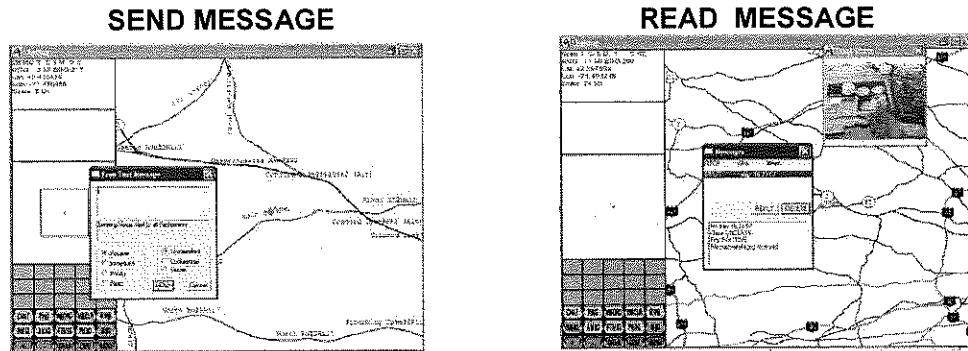


#### **5.4.4 Track Entry Differences.**

Like PDA LifeRing, selecting the PC LifeRing Function Matrix Track Switch produces the Track Action Matrix associated to it. To place a track on the Map Area however, the PC LifeRing User must place the cursor arrow on the map at the selected location and right click the mouse one time. This action places the blue cross (+) on the map. All other track functions remain the same, but some of the entry and readouts are in moveable windows.

#### **5.4.5 Text and Photo Message Differences.**

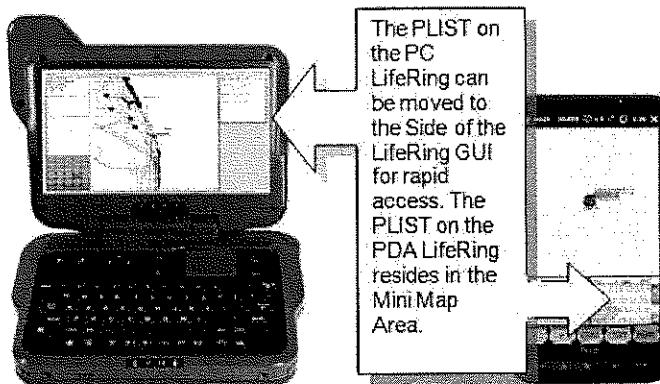
Text and Photos each have their individual moveable message boxes that appear. The receiving PC LifeRing unit still displays message by selecting the RMSG Switch and the received message is displayed in the Inset Area.



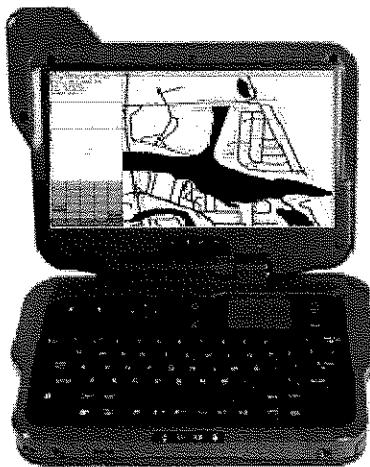
To enlarge a Photo, Click on It.

#### 5.4.6 Participant List Differences.

When selected by the PLIST Switch, the Participant List is displayed in its own display box. The configuration of the PLIST is identical to the PLIST on the PDA LifeRing. The main advantage of a PC PLIST is it can be left open and pushed to the side for easy reference. The PDA version of LifeRing uses the mini map area to display the PLIST.



The PLIST Displayed on the PC and the PDA LifeRing Screen.



**To Push to Talk with a PC LifeRing device, Hook the Symbol of the intended Addressee and press the PTT SoftSwitch.**

**The PC device must Have a properly configured microphone to utilize the LifeRing PTT feature.**

#### **5.4.7 COMM.**

PC LifeRing software **does** support the “Point-2-Call” function for PTT only. The LifeRing PC must have a properly configured microphone and audio capability to use PTT. PC LifeRing does not support traditional phone calling.

To transmit voice to a LifeRing user device, hook the symbol of the intended addressee and press the PTT SoftSwitch. When a symbol is hooked while in the COMM SoftSwitch matrix, observe that the symbol is surrounded by a green perforated box instead of the traditional blue circle. The difference is to symbolize the distinction between “Hooking” a symbol to track it and “Hooking” a symbol to direct data to it.



A Symbol Hooked from the Function SoftSwitch Matrix   **VS**    A Symbol Hooked from the COMM Action SoftSwitch Matrix

## 5.5 Unique PC Version LifeRing Functions.

Certain functions are unique to the PC LifeRing Application.

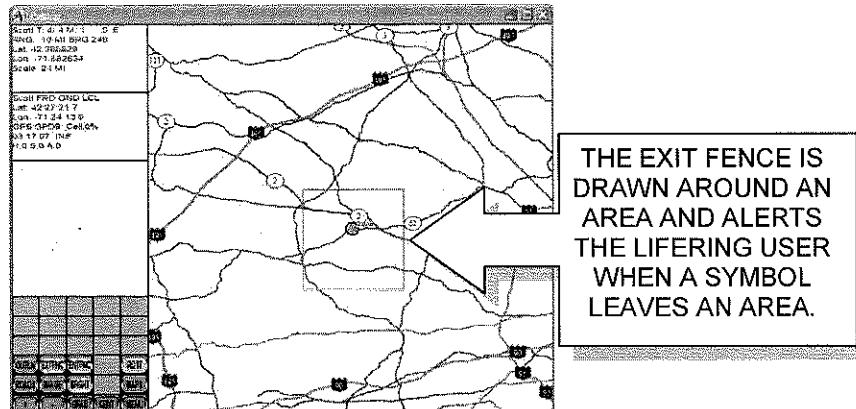
### 5.5.1 Geo-Fencing.

LifeRing PC software uses Geo-Fencing to alert the PC LifeRing user when designated areas are violated by either the entrance or exit of LifeRing associates or tracks into or from the designated area.

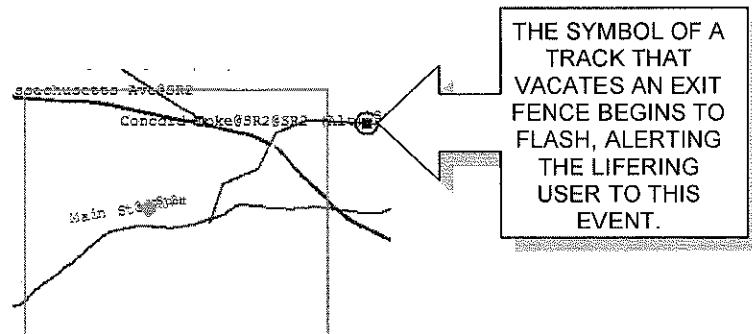
#### 5.5.1.1 EXTFNC (Exit Fence).

The Exit Fence is a Geo-Fence that alerts the PC LifeRing operator when a LifeRing associate or Track exits a designated area drawn on the LifeRing main map display.

To create an Exit Fence, click on the EXTFNC switch located in the MAPS switch tier. Using your mouse or stylus, click on the LifeRing main map and pull a square encompassing the area to be protected. The Exit Fence is represented by a green square.



The Exit Fence Protects a Designated Area From Associates or Tracks Leaving.

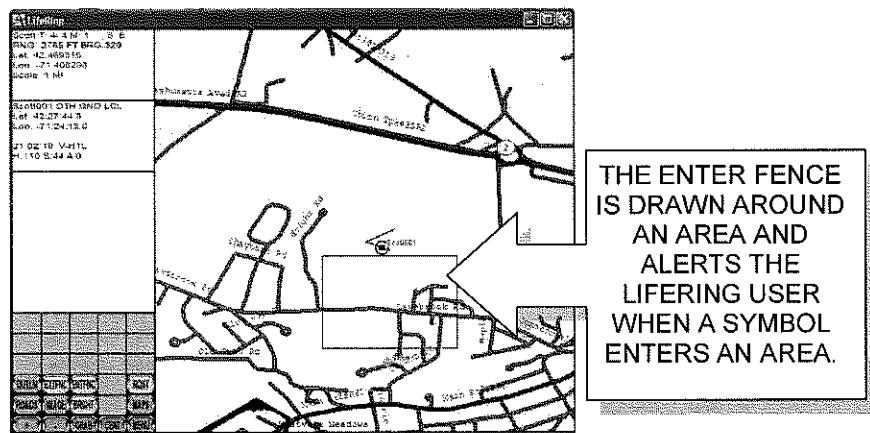


A track symbol that vacates an exit fence continues to flash even when it returns to the protected area.

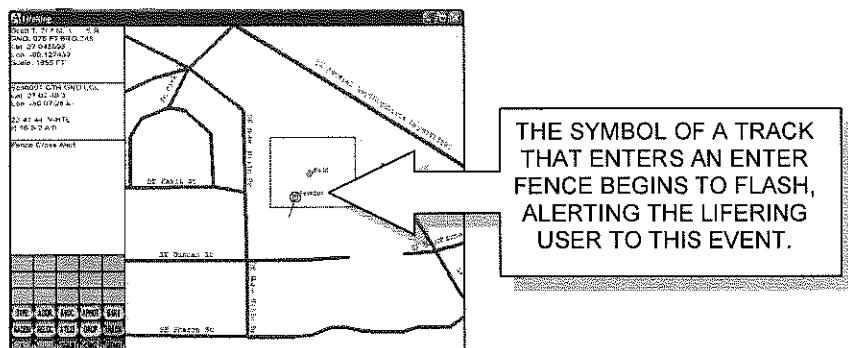
#### 5.5.1.2 ENTFNC (Enter Fence).

The Enter Fence is a Geo-Fence that alerts the PC LifeRing operator when a LifeRing associate or Track enters a designated area drawn on the LifeRing main map display.

To create an Enter Fence, click on the ENTFNC switch located in the MAPS switch tier. Using your mouse or stylus, click on the LifeRing main map and pull a square encompassing the area to be protected. The Enter Fence is represented by a purple square.



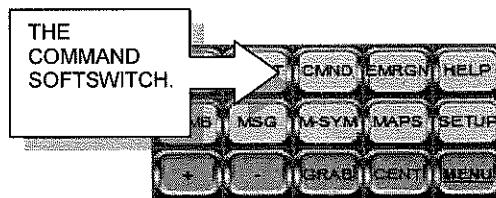
The Enter Fence Alerts the PC LifeRing Operator When an Associate or Track Symbol Enters a Designated Area.



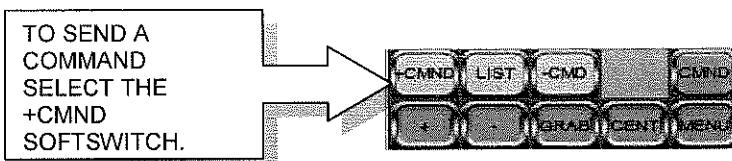
A Track Symbol That Violates an Enter Fence Continues To Flash Even When It Exits the Protected Area. The Alert "Fence Cross Alert" is Displayed in the Inset Area When the Symbol of the Track is Hooked.

### 5.5.2 Command.

The Command function forces an alert to be displayed on the screens of all associated participants. It is used in situations where the message or command is of highest priority and acknowledgement of receipt of the message or command coupled with the user's ability to comply is desired.



To send a Command, select the CMND SoftSwitch to display the Command Action SoftSwitch Matrix.



The Command Action SoftSwitch Matrix.

#### 5.5.2.1 ADD a Command (+CMND).

The +CMND SoftSwitch displays the System Alert screen. The System Alert screen enables the operator to type in a free text command coupled with an associated pre-formatted command type.



The +(Add) Command Screen.

To transmit the command, select the OK button. To cancel the command, select the Cancel button.

### 5.5.2.1.1 Receiving a Command.

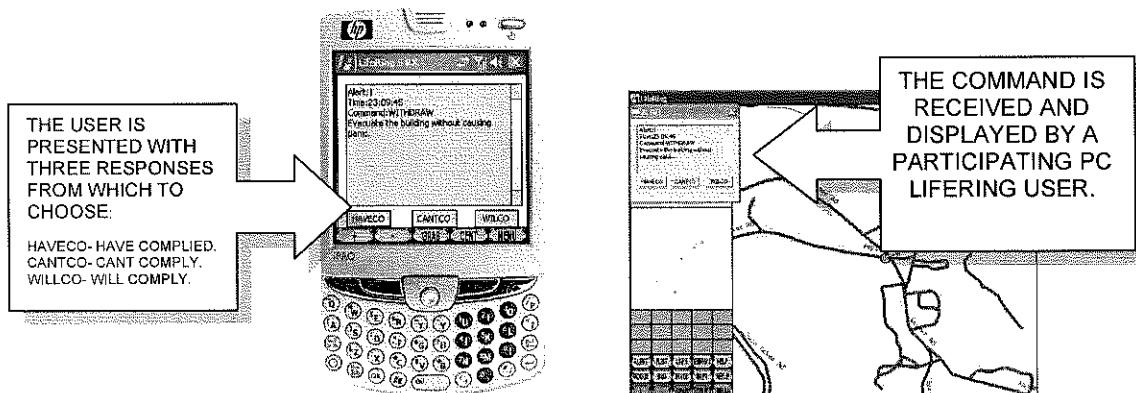
LifeRing devices receiving a command, suspend all non essential operation until the user responds to the command. The receiving users are provided three (3) possible responses to the command.

**HAVECO-** Have Complied.

**CANTCO-** Can not Comply.

**WILCO-** Will Comply.

User devices continue to transmit and receive data, but the LifeRing user is unable to continue with any other function until responding to the command. Minimizing LifeRing or even terminating LifeRing will not bypass the command. No activity will continue until the acknowledgement is transmitted.

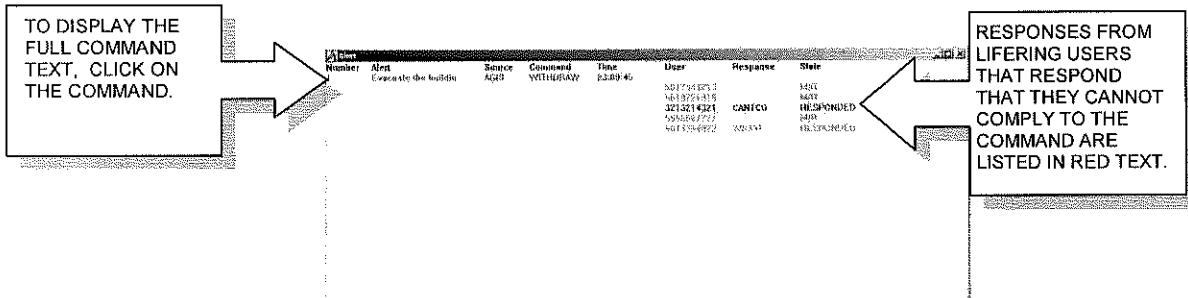


Receiving a Command on the PDA and the PC.

### 5.5.2.2 LIST COMMANDS AND ASSOCIATED RESPONSES.

The PC user can view the acknowledgements to commands and the status of those commands by selecting the LIST SoftSwitch. The List Commands Screen displays all commands and the responses to those commands.

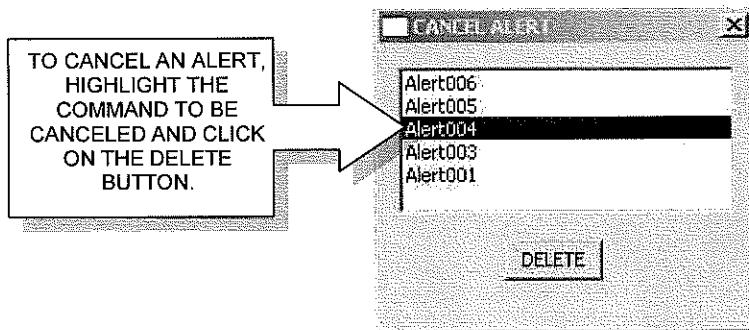
Negative responses, (users who report that they cannot comply), are displayed in red text. LifeRing users who have responded that they have complied or that they will comply are displayed in green.



**The LifeRing Alert Screen Displays All Active Alerts and the Responses of the Participants.**

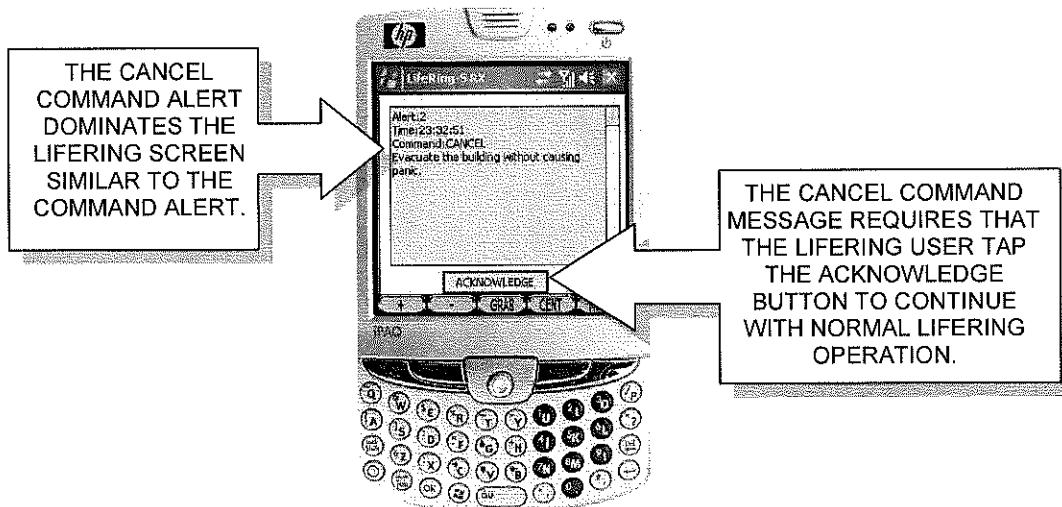
#### 5.5.2.3 86 -CMD (CANCEL Command).

To cancel a command, select the -CMD SoftSwitch. A list of all commands is displayed. Highlight the alert to be canceled and select the delete button. An associated notifying message is transmitted to all participating associates informing them to cancel the specified command.



**The Cancel Command Screen. Highlight the Command to be Canceled.**

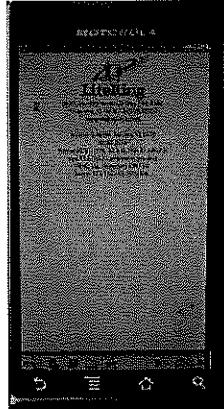
The cancel command is similar to the command function in that the LifeRing client devices display a command screen with the Cancel Command message .The exception is that the participating users are only offered the option to acknowledge receipt of the cancel command. Cancel commands are displayed on the LIST Commands Screen in conjunction with the original command. Acknowledgements to Cancel Command messages are also displayed on the LIST Command Screen.



The Cancel Command Screen Displayed on a PDA.

## 6.0 "Thin" Client LifeRing.

LifeRing thin client is a PC application that is designed to be viewed and operated from a Droid, Blackberry or iPhone PDA device using Remote Desktop Protocol (RDP). LifeRing thin client system requires a small LifeRing Tracker client application and the RDP application to be installed on the thin client PDA device. All LifeRing functions are accessed remotely while the operation and appearance to the user is as if the entire LifeRing application was installed on the device. LifeRing thin client performs very closely to the original PDA version once a connection to the host is established.



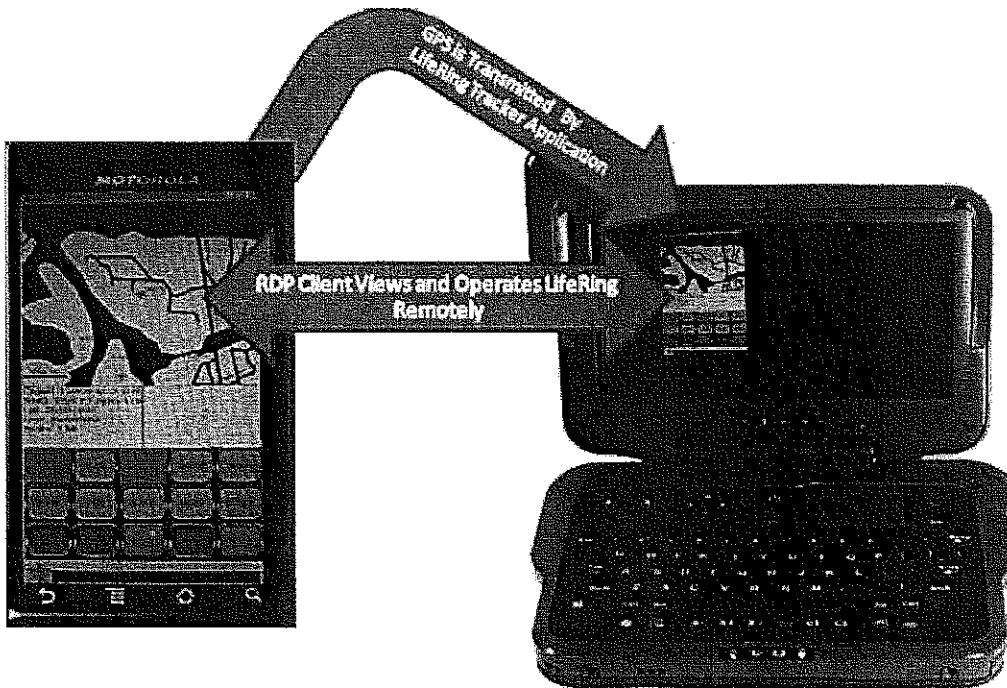
Thin Client LifeRing Initiates on a Droid by displaying the LifeRing Logo, (exactly like Thick Client LifeRing).

### 6.1 Thin Client Architecture VS Thick Client LifeRing.

Thin client LifeRing is the same software as thick client PC LifeRing. The only dissimilarity is where the software resides. With respect to thick client (traditional) LifeRing, the software resides on the subject device itself. All functions of LifeRing including the display, GPS and communications are processed by the client device.

With respect to thin client LifeRing, the emphasis is shifted away from the client device and resides on the central host computer. In essence, the thin client LifeRing is really a portal through which the LifeRing operator views and operates a version of LifeRing that is running on another more capable machine; with one exception. That exception is the unique GPS signal of each user device. For this reason, a small LifeRing tracker application must reside on each thin client LifeRing device. The purpose of this tracker application is to transmit the user location to the RDP host so that the users symbol is located correctly on the LifeRing Common Operational Picture.

When a LifeRing thin client user opens the RDP client application to view the LifeRing COP, a second application (LifeRing tracker) should also be initiated by this user to supply the LifeRing COP with the GPS information to associate with his symbol. The lack of GPS data will result in the incorrect positioning of the thin client symbol on the Common Operational Picture.



LifeRing “Thin” Client

LifeRing Host

The RDP Client Application Provides the Thin Client LifeRing User with a Fully Functional Interactive LifeRing Display while at the same time the LifeRingTracker Application feeds vital GPS data to the same Display. The End Result is a reliable duplication of the Thick Client application in a Thin Client wrapper.

Supported By LifeRing.

## 6.1 DROID LifeRing

The LifeRing RDP application for the Droid is an excellent choice for customer's choosing the thin client alternative.

To configure LifeRing thin client on the Droid for the first time, visit the Droid apps store and install the application "apkInstaller". Once installed, use it to install the agis.apk application. The agis.apk is the tracker software that will provide the LifeRing server with the gps data. Here is a link to the RDP client we are using for the Android:

<http://www.xtralogic.com/rdpclient.shtml>

To configure a new RDP connection on the Droid:

1. Download and install the Xtralogic "Remote Desktop" client for Android devices
2. Press the Home button, scroll down, and run "Remote Desktop"
3. Press the Droid's menu button (on the bottom row of buttons)
4. Press the Add server button
5. In the General Tab...
6. Enter the IP address of the server, i.e. 173.162.120.109
7. Enter the User Name, i.e. Droid4
8. Enter the Password, i.e. RDP2010
9. Change the Resolution to: "Fit device screen" (at top of list, above 640x480 and Custom)
10. Switch to the Advanced tab (at top, left of General tab)
11. Change Sound to: "Play sound on the client"
12. Press the Save button (at bottom)

The newly created entry will appear in the list titled as PDA5@173.162.120.109, tap on the entry to connect to the RDP server.

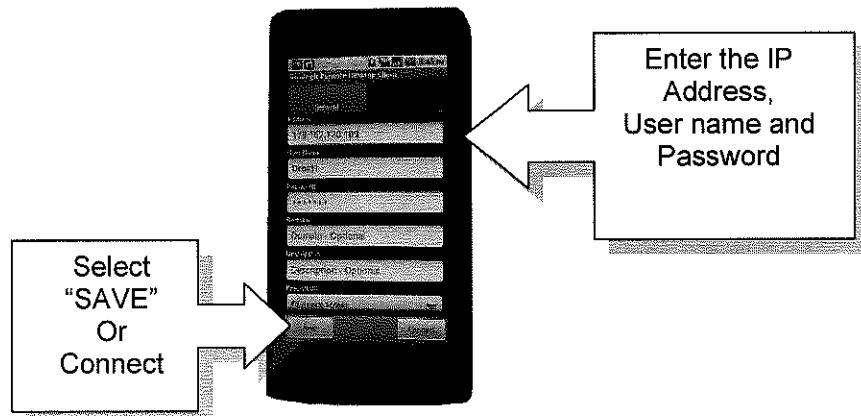
To display the soft keyboard, press the Droid's menu button.

To zoom in on an area of the screen, do a multitouch and slide fingers apart

To pan after a zoom, touch and drag the screen around.

Close LifeRing by pressing the X button in the top left corner of the window.

To initiate LifeRing on a Droid, locate the application titled RDP on the device's Main Menu Screen. Initiate RDP. The RDP Client interface will prompt for an IP address of the RDP host server, a user name and a pass code. Enter the prescribed information supplied by the system administrator to connect to the RDP host.



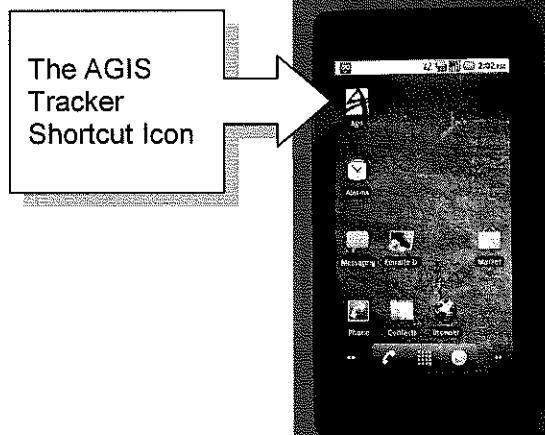
**The RDP Client Initialization Page Displayed on a Droid.**

To connect to the LifeRing Thin Client host select "Connect". Once a connection to the host PC is established, the LifeRing application residing on the host will initiate automatically.

Unless previously configured by the System Administrator, a phone number to associate with the client device must be entered in the fields provided. A name for the thin client LifeRing will also be requested. Up to 6 letters in the name field are permitted.

A LifeRing Common Operational Picture will be displayed on the Droid device however the local position will be inaccurate until the GPS coordinates are supplied.

Locate the AGIS tracker application shortcut on the Android program menu and tap it to initiate.

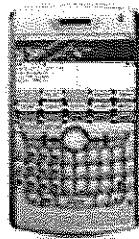


**The AGIS Tracker Application Shortcut Icon.**

The AGIS Tracker application will prompt the user to enter the IP address of the LifeRing Server and a phone number to associate to this device. Enter the prescribed information and select "Connect". The AGIS Tracker program will commence to transmit the local position information to the LifeRing Server. The LifeRing Server will receive the position information and realize from the phone number that this information is associated with the thin client that possesses the same phone number. The LifeRing symbol on the LifeRing Common Operational Picture will relocate on the LifeRing Main Map to symbolize this event. From this point forward, the LifeRing thin client is virtually identical to the traditional LifeRing Interface.

## 6.2 BlackBerry LifeRing

To initiate LifeRing on a BlackBerry, locate the application titled RDP on the device's Main Menu Screen. Initiate RDP. The RDP Client interface will prompt for an IP address of the RDP host server, a user name and a pass code. Enter the prescribed information supplied by the system administrator to connect to the RDP host.



**The RDP Client Displayed on a BlackBerry.**

To connect to the LifeRing Thin Client host select "Connect". Once a connection to the host PC is established, the LifeRing application residing on the host will initiate automatically.

Unless previously configured by the System Administrator, a phone number to associate with the client device must be entered in the fields provided. A name for the thin client LifeRing will also be requested. Up to 6 letters in the name field are permitted.

A LifeRing Common Operational Picture will be displayed on the BlackBerry device however the local position will be inaccurate until the GPS coordinates are supplied.

Locate the AGIS tracker application shortcut on the Android program menu and tap it to initiate.

The AGIS Tracker application will prompt the user to enter the IP address of the LifeRing Server and a phone number to associate to this device. Enter the prescribed information and select "Connect". The AGIS Tracker program will commence to transmit the local position information to the LifeRing Server. The LifeRing Server will receive the position information and realize from the phone number that this information is associated with the thin client that possesses the same phone number. The LifeRing symbol on the LifeRing Common Operational Picture will relocate on the LifeRing Main Map to symbolize this event. From this point forward, the LifeRing thin client is virtually identical to the traditional LifeRing Interface.

### 6.3 iPhone LifeRing

To initiate LifeRing on an iPhone, locate the application titled RDP on the device's Main Menu Screen. Initiate RDP. The RDP Client interface will prompt for an IP address of the RDP host server, a user name and a pass code. Enter the prescribed information supplied by the system administrator to connect to the RDP host.

#### **The RDP Client Displayed on a iPhone.**

To connect to the LifeRing Thin Client host select "Connect". Once a connection to the host PC is established, the LifeRing application residing on the host will initiate automatically.

Unless previously configured by the System Administrator, a phone number to associate with the client device must be entered in the fields provided. A name for the thin client LifeRing will also be requested. Up to 6 letters in the name field are permitted.

A LifeRing Common Operational Picture will be displayed on the iPhone device however the local position will be inaccurate until the GPS coordinates are supplied.

Locate the AGIS tracker application shortcut on the iPhone program menu and tap it to initiate.

The AGIS Tracker application will prompt the user to enter the IP address of the LifeRing Server and a phone number to associate to this device. Enter the prescribed information and select "Connect". The AGIS Tracker program will commence to transmit the local position information to the LifeRing Server. The LifeRing Server will receive the position information and realize from the phone number that this information is associated with the thin client that possesses the same phone number. The LifeRing symbol on the LifeRing Common Operational Picture will relocate on the LifeRing Main Map to symbolize this event. From this point forward, the LifeRing thin client is virtually identical to the traditional LifeRing Interface.

## 7.0 LifeRing PDA / PHONE CONNECTIVITY

### 7.1 Establishing A Connection

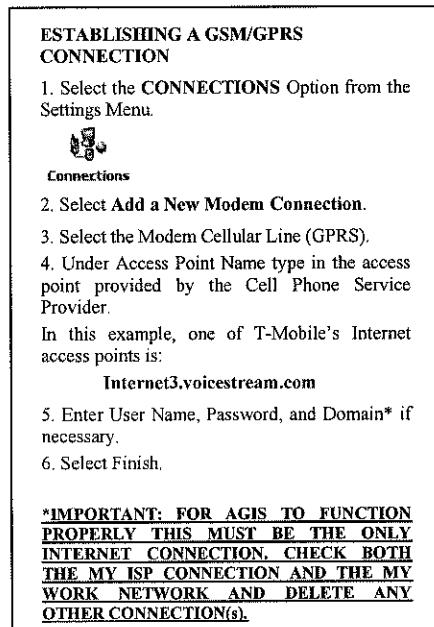
Pocket PC Cell Phones are available from cell phone providers and third party retailers. Devices purchased directly from a Cell Phone Provider are usually designed to work only with that provider's Internet Access Point and voice network. These devices are referred to as "locked" because they are bound to one Cell Phone Provider.

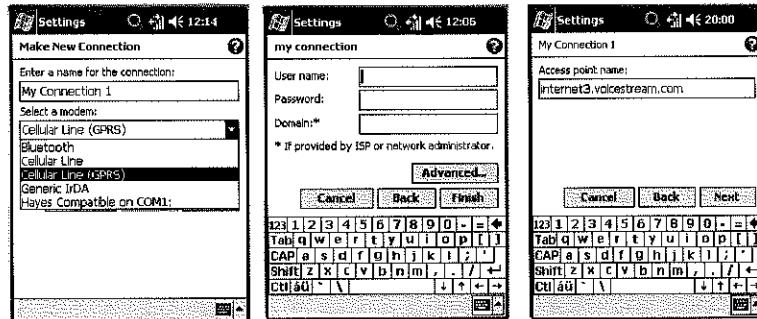
"Unlocked" Pocket PC Cell Phones are devices that permit the user to change Cell Phone Providers while still using the same Pocket PC Cell Phone.

With regard to "unlocked" devices, the process of changing from one Cell Phone Provider to another usually involves the exchange of the first provider's GSM/GPRS/EDGE/3G SIM chip with a new one from the new provider. Please refer to your handset Manufacturer's documentation for this procedure.

Following the exchange of SIM chips, most modern Pocket PC Cell Phones automatically seek out and establish connectivity with the new provider. However, should you need to configure your handset to access the Internet with the new provider, consult with the new Provider's Tech Support to establish an Internet connection.

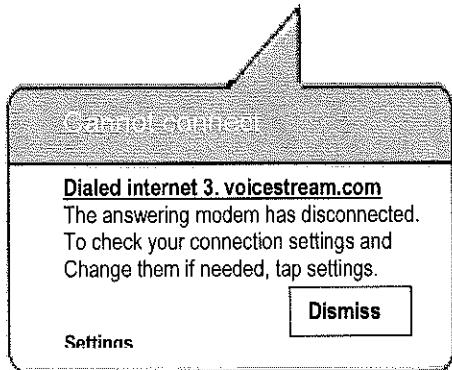
There are enough similarities between Pocket PC Cell Phones that we can offer this generic procedure for establishing an Internet connection:





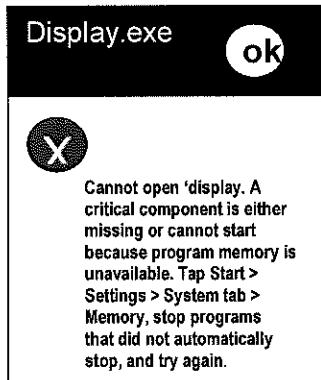
Establishing an Internet Connection Using a WINDOWS MOBILE 6 PDA Cell Phone.

## 7.2 Cell Phone Error Messages



### CELL PHONE ERROR MESSAGES

1. Cell Phone Technology is not perfect and cell phone Internet connections do fail.
2. LifeRing systems transmit principally by the Internet.
3. Sometimes Cell Phone Internet is unavailable due to coverage loss or other reasons.
5. Soft Resetting the Handheld PC often restores the devices ability to access the Internet.
6. Don't try to store too many photographs or video clips. Save them to an SD card, or delete them.
7. Close other applications before initiating LifeRing.
8. Without enough memory, LifeRing may not start or run.
9. Handsets with exhausted batteries will place themselves in "Flight Mode" to conserve battery power.



Although highly unlikely, two circumstances may cause the Display.exe drop down alert to display:

1. The LifeRing Program is corrupted. Re-load LifeRing using the LifeRing Program Loader.
2. The LifeRing Pocket PC has too many running programs and does not have enough Memory to support LifeRing.

To access program Memory:

From the Handset's Windows Drop Down menu select Settings.

Under the System menu select the Memory symbol.



From the Windows Memory Screen the LifeRing operator may select to allocate additional system memory to programs. -OR-

The LifeRing operator may select the Running Programs option from the Memory Screen and elect to close any unnecessary running programs. This action will free additional memory for the LifeRing program to run.

### 7.3 The Soft Reset

The soft reset is the same as shutting your handset down and restarting it. Follow the instructions in the Manufacturer's Operator's documentation for directions to soft reset your device. Often, soft resetting your handset will solve most associated connectivity and memory issues.

### 7.4 The Hard Reset

It is possible to completely delete all data loaded onto your handset by holding the power key, and simultaneously pressing the soft reset button.

#### THE HARD RESET

1. A hard reset removes all volatile programs and returns the Handheld PC back to its original state. All data is lost unless the system is backed up.
2. All volatile memory can also be lost if a handheld PC is without any power for an extended period of time.
3. Non-volatile memory is permanent memory that is not lost if the unit's battery is fully exhausted. The non-volatile memory is in a folder called Storage under the Windows folder in the File Explorer application.

You can save applications here that you don't want to lose, or use the Back up/Restore function to back up data to non-volatile memory for safe keeping.

### 7.5 Battery Replacement and Care

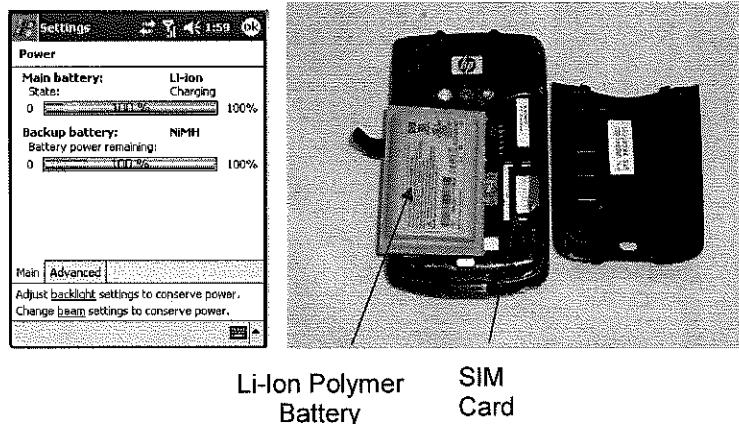
Your Pocket PC Phone contains a rechargeable Li-ion polymer battery. Individual battery power economy depends on whether you are talking on the phone, using LifeRing and other processes, or if the device is on standby.

**WARNING** To avoid the risk of fire or burns, do not disassemble, crush, puncture, short external contacts or store above 60°C (140°F).

It is vital to keep your battery charged, or replace the exhausted battery with a fresh one. Since this Pocket PC does not have a hard drive, any data you store and any additional programs you install, including LifeRing are stored in the RAM. If the battery completely drains, a portion of the main battery is reserved, (by design), to keep your data safe for 72 hours.

Additionally, an internal backup battery is designed to keep your data safe for 20 minutes when you remove the main battery. Be sure to check that this internal battery remains at 50% or above before you remove the main battery by tapping the Start menu>Settings>the System

Tab>Power. 



## 7.6 Contact LifeRing Support

Your opinion and input is appreciated. Support is also available. Please visit us at <http://www.agisinc.com>. LifeRing cannot test with every computer device on the market. We can only assist you with questions pertaining to LifeRing Software installed on devices we support. Specifically,

PDA LifeRing software is designed for Microsoft® Windows Mobile Version 5.0. or Microsoft® Windows Mobile 6.0.

PC LifeRing software is designed for Microsoft® Windows XP and Vista.

## APENDIXA

### 1.0 The LifeRing CoT interface

is a separately licensed application offered by AGIS, Inc. and it is not included in the regular PCAGIS package. The LifeRing CoT interface is a client based application that deciphers and exchanges LifeRing proprietary message specs to and from the CoT backbone. The LifeRing CoT interface consists of two executables: Cot.exe and trackdb.exe. Both executables are dependent on the PCAGIS application and will not run independently of it. They must be placed in the Program Files\AGIS\bin to function. An additional file called agis\_network.def must be placed in a folder labeled COT. This folder must be placed in Program Files\agis\network\. The agis\_network.def file should be issued to the user at the same time as the LifeRing CoT interface. The absence of a properly configured agis\_network.def file will prevent the initiation of the LifeRing CoT interface.

#### 1.1 LifeRing CoT Architecture.

The LifeRing network exchanges data with an enormous variety of data bases, services and other third party apps. The CoT interface is client based because of its dependence on PC AGIS.

PC AGIS supplies the CoT interface with the data to be transmitted to the CoT driver for distribution to other CoT compatible applications (Legacy Military C3 Programs).

Conversely, other CoT compatible applications supply data to the CoT driver for return to LifeRing via the LifeRing CoT interface. See Fig 1.1.1.

**LifeRing Architecture**

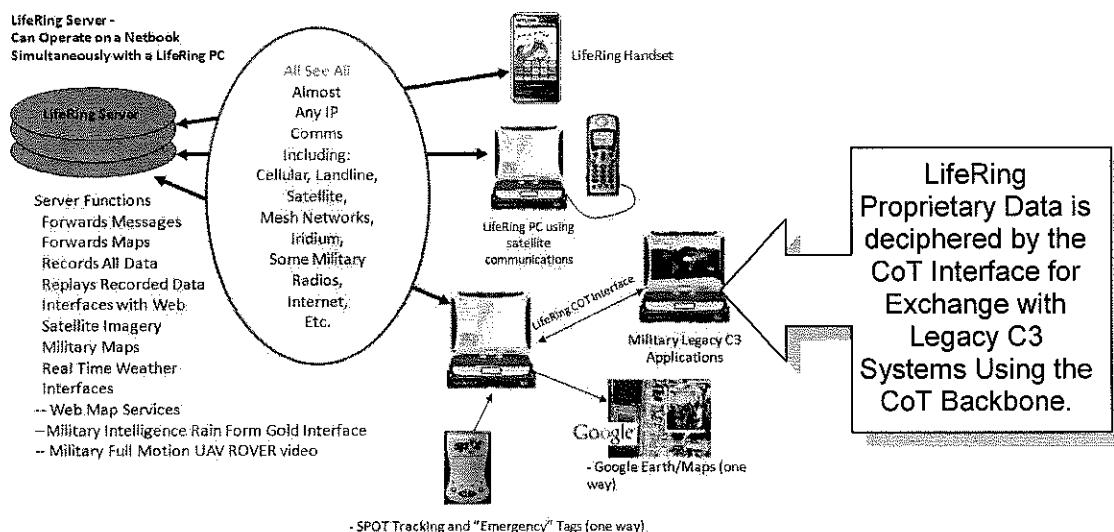


Fig 1.1.1 The LifeRing PC client transmits and receives data with all associated LifeRing users. The PC LifeRing client may also be configured to exchange data through the CoT Interface with Legacy Military C3 Applications.

## 1.2 Configure LifeRing CoT Interface

To configure the LifeRing CoT interface,

First:

Open c:\program files\agis\network\COT\agis\_network.def.

See Figure 1.2.1

```
; ; CoT - parse data, format to dcc and route to intel
; ; UDP, OTHT, INPUT, ELINT, 127.0.0.1, 2020
; ; TCPS, COT, INPUT, COT, 127.0.0.1, 89
;
; TCP, COT, IO, COT, 192.168.50.107, 18200
; ; TCP, COT, OUTPUT, COT, 127.0.0.1, 89
cot derg, UDP, COT, OUTPUT, DDERG, 127.0.0.1, 1200
```

IP ADDRESS and  
IP PORT for  
INPUT and  
OUTPUT to and  
from the Cot

Figure 1.2.1 The CoT Interface network.def file is configured to Transmit and Receive Data with CoT. Configure the CoT input and the CoT output to the IP address and the COM port that the CoT Driver or Router is configured to.

Second:

Open C:\Program files\AGIS\bin\.

Start trackdb.exe. See Figure 1.2.2

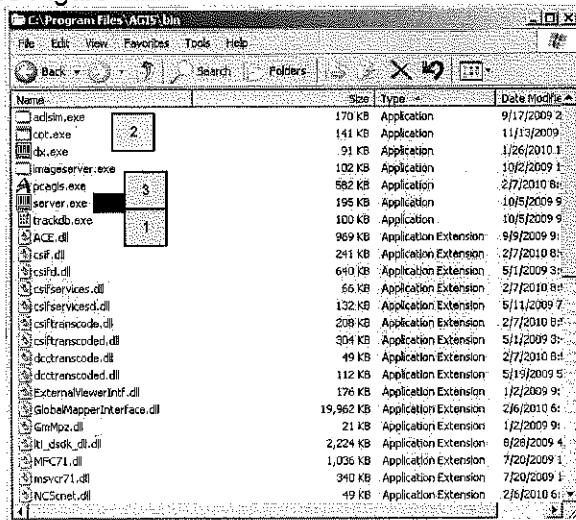


Figure 1.2.2 the open AGIS bin directory where the AGIS CoT executables reside. The order in which the executables must be spawned is illustrated.

Figure 1.2.3 Illustrates the AGIS Track Database GUI.

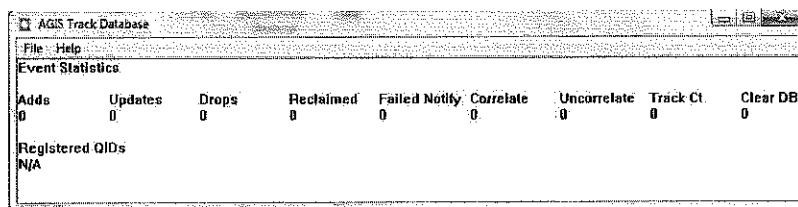


Figure 1.2.3 The LifeRing Track Database GUI displays event statistics. Data activity is displayed in the appropriate column. The Track Database will not display any activity until PC LifeRing is started.

Third:

Start agis\_cot.exe. See Figure 1.2.4.

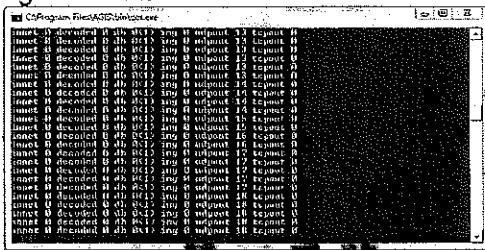


Figure 1.2.4 The AGIS Cot.exe application GUI is not interactive. The Display is intended to show data activity.

Fourth:

Start pcagis.exe. See Figure 1.2.5

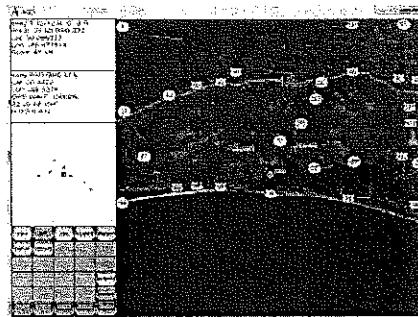
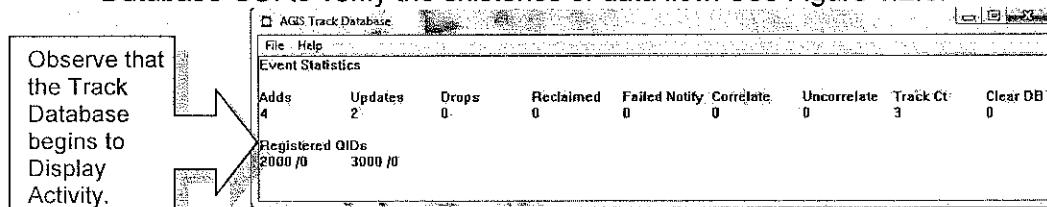


Figure 1.2.5. AGIS PC LifeRing will immediately begin to exchange data through the AGIS Track Database and AGIS CoT interface.

The Track DataBase GUI will confirm a properly operating interface. Observe the Track Database GUI to verify the existence of data flow. See Figure 1.2.6.



1.2.6 Illustrates the Track Database as it begins to display Data Activity. The AGIS CoT interface will also begin to reflect Data exchange. See Figure 1.2.7

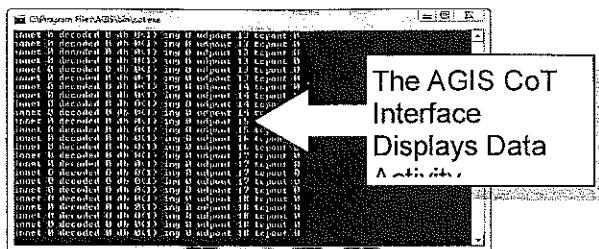


Figure 1.2.7 The AGIS CoT interface will begin to display data activity immediately following the Track Database. The LifeRing CoT interface is properly configured and operating.

### 1.3 Configure the CoT Driver.

The CoT Application driver is a licensed application of Mitre Corporation. Please refer to the documentation provided by the manufacturer. Once properly installed, initiate the CoT driver. See Figure 1.3.1

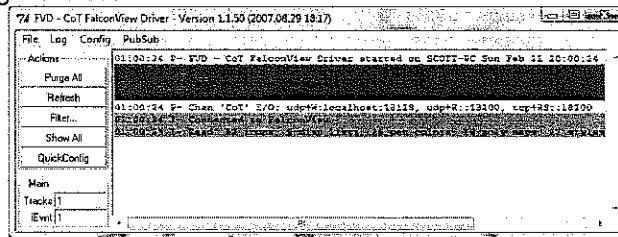


Figure 1.3.1 the CoT FalconView Driver GUI. The Green highlighted data indicates a positive connection between the CoT FalconView Driver and the FalconView application. To configure the CoT FalconView Driver to exchange data with the AGIS CoT interface open the PubSub tab on the CoT FalconView Driver GUI. See Figure 1.3.2

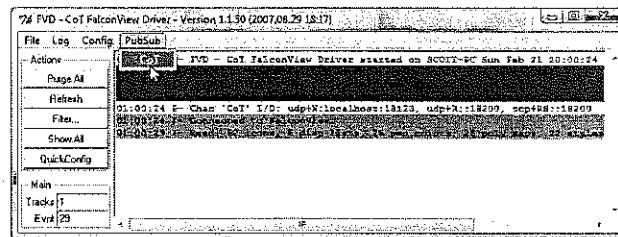


Figure 1.3.2 The CoT FalconView Driver PubSub tab opens the CoT Publish and Subscribe configuration menu. See Figure 1.3.3.

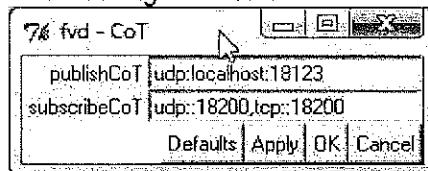


Figure 1.3.3 The FalconView-Cot PubSub menu must be configured to coincide with the Program Files\AGIS\Network\CoT\agis\_network.def file. Configure the ports to send

and receive AGIS data. Observe that a properly configured system will display AGIS LifeRing data on the FalconView map.

See Figure 1.3.4.

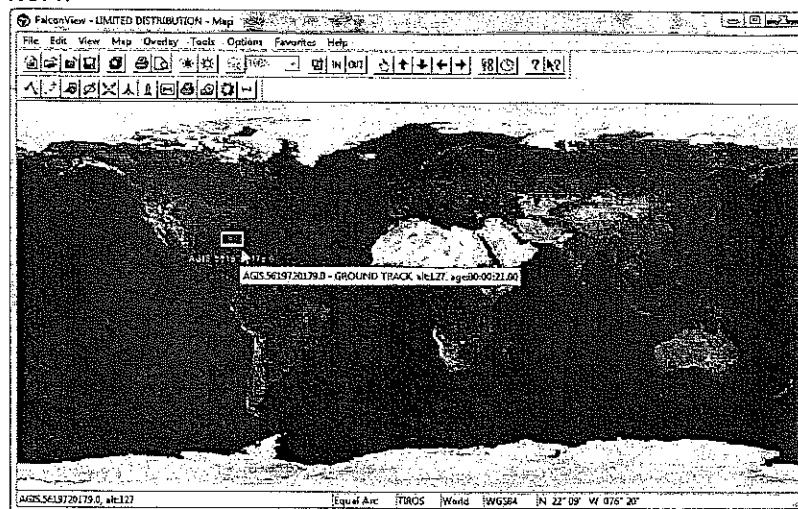


Figure 1.3.4 The FalconView Map is displaying LifeRing data on the map.

## Appendix B

To initiate the LifeRing kml export for Google Earth.

### 1.0 Configure LifeRing to Generate the KML file for Google Earth

To configure LifeRing to create a kml file for use with Google Earth open the agis\_loc\_init.def and create the following two entries:

```
GEN_FOR_GOOGLE_EARTH  
LOC_FOR_GOOGLE_EARTH
```

The GEN\_FOR\_GOOGLE\_EARTH configures LifeRing to generate the file and the LOC\_FOR\_GOOGLE\_EARTH does something else that is important but I can't remember what it is.

The agis\_loc\_init.def file is only read by LifeRing on initiation so LifeRing must be restarted after amendments to the file.

An additional entry can be created in circumstances that require Google Earth to display tactical symbols. Google Earth is not a Command and Control system so we need to tell it what symbols to use. By default, LifeRing is hard coded to instruct Google Earth to access a folder on the <http://www.agisinc.com> web site to obtain these symbols. Naturally, Internet connectivity is essential to access the agisinc.com site so if reach back is not an option then the administrator can direct LifeRing to redirect Google Earth to look in another location for the symbols inside the LAN. Preferably on the box that is running Google Earth.

SYMBOL\_PATH\_FOR\_GOOGLE\_EARTH file:///c:/program files/agis/symbols

(Any location, but follow this protocol and verify access to the location)

### 2.0 Create the Folder and SUB Folders for the GOOGLE Export.

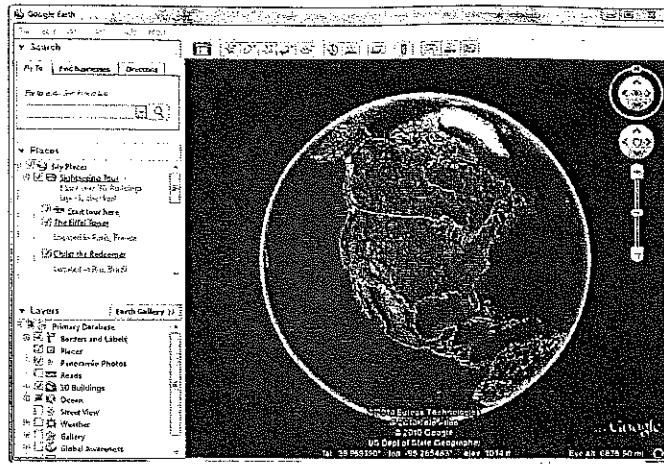
Create the following folders for LifeRing to deposit the kml file for GOOGLE Earth to access:

C:\INETPUB\WWWROOT\GE

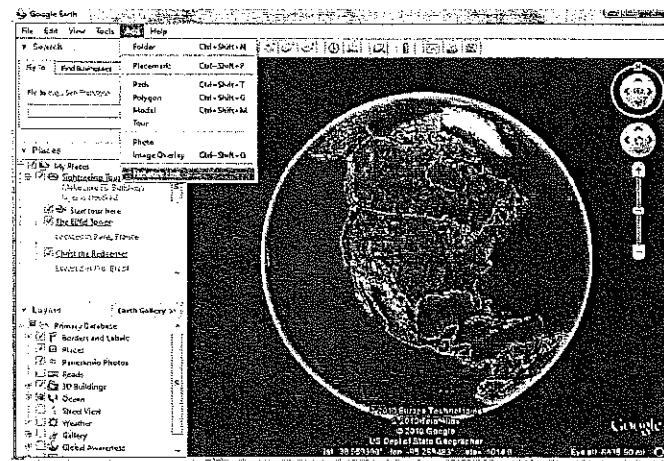
Run LifeRing to verify that it is indeed generating the file in the GE folder. LifeRing updates the COP data to this folder every minute.

### 3.0 Configure Google Earth to Open a Network Link.

Open the Google Earth application



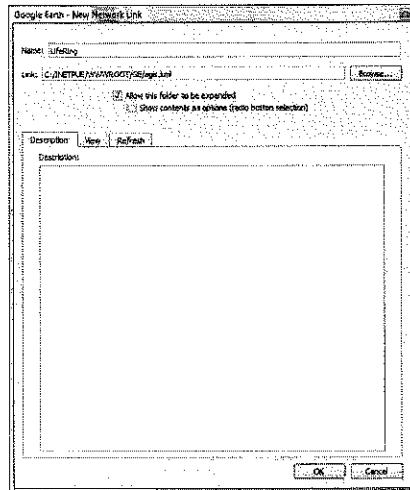
Locate the ADD tab in the top task bar. At the bottom of the drop down menu locate the Network Link tab. Add a Network Link.



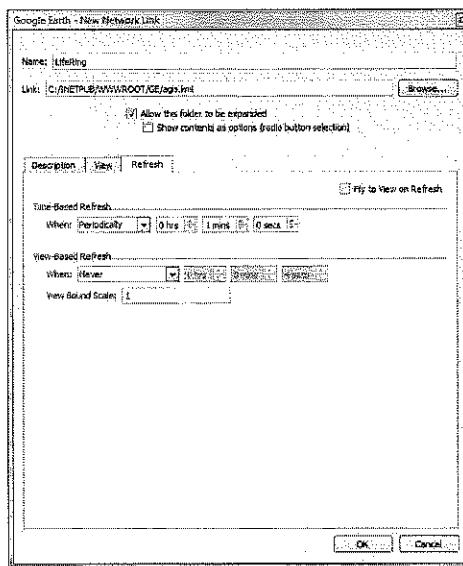
Type in the Name of this link and the address of the agis.kml file:

Name: LifeRing

URL: C:/INETPUB/WWWROOT/GE/agis.kml

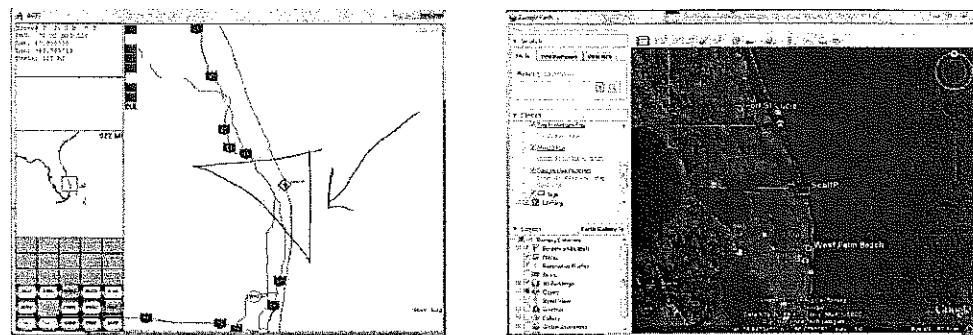


Open the Google Earth-New Network Link Refresh Tab and configure Google Earth to Time Based Refresh Periodically every minute. Select OK.

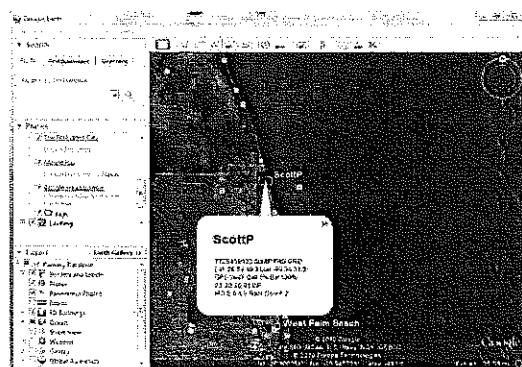


Symbols and White Boards will display on the Google Earth Map.

A White Board Drawn on the LifeRing Main Map will Display on the Google Earth Map.



Tap on a LifeRing generated Symbol to view the status information associated with the Track.



## Appendix C

### 1.0 LifeRing Software Mapping Support

#### Most Commonly Used Maps

##### MILITARY MAPS

- Joint Operations Graphic - Air (JOG-A) for US [1:250K Scale]
- Tactical Pilotage Charts (TPC) for US [1:500K Scale]
- Operational Navigation Charts (ONC) for UST [1:1M Scale]
- Jet Navigation Charts (JNC) for US [1:2M Scale]
- Global Navigation Charts (GNC) for US [1:5M Scale]

##### \*\*\* PREMIUM CONTENT \*\*\*

- \*\*\* Worldwide High-Res Imagery \*\*\* from DigitalGlobe [PREMIUM CONTENT]
- Intermap TerrainOnDemand (Highly Accurate 3D DEMs) [PREMIUM CONTENT]
- US Land Parcel Data from CoreLogic [PREMIUM CONTENT]

##### IMAGERY

- \*\*\* Worldwide High-Res Imagery \*\*\* from DigitalGlobe [PREMIUM CONTENT]
- NAIP Color Imagery for US (1m Resolution)
- Landsat7 Global Imagery Mosaic (Natural Color, Pan-Sharpened)
- Landsat7 Global Imagery Mosaic (Pseudo-Color, Pan-Sharpened)
- DOQ - USGS Digital Ortho-Quadrangle (Grayscale aerial imagery) [MSRMAPS.COM]
- UrbanArea - High-resolution Color Imagery for Select Urban Areas in the US [MSRMAPS.COM]

##### TERRAIN DATA

- Intermap TerrainOnDemand (Highly Accurate 3D DEMs) [PREMIUM CONTENT]
- United States Elevation Data (NED) (30m Resolution) [Use <http://seamless.usgs.gov/> if fails]
- SRTM Worldwide Elevation Data (3-arc-second Resolution) [Use <http://srtm.csi.cgiar.org/> if fails]
- ASTER GDEM Worldwide Elevation Data (1.5-arc-second Resolution) [Use <http://asterweb.jpl.nasa.gov>]

##### U.S. DATA

- NAIP Color Imagery for US (1m Resolution)
- United States Elevation Data (NED) (30m Resolution) [Use <http://seamless.usgs.gov/> if fails]
- US Land Parcel Data from CoreLogic [PREMIUM CONTENT]
- DOQ - USGS Digital Ortho-Quadrangle (Grayscale aerial imagery) [MSRMAPS.COM]
- DRG - USGS Digital Raster Graphics (Topographic Maps) [MSRMAPS.COM]
- UrbanArea - High-resolution Color Imagery for Select Urban Areas in the US [MSRMAPS.COM]

##### WORLDWIDE DATA

- \*\*\* Worldwide High-Res Imagery \*\*\* from DigitalGlobe [PREMIUM CONTENT]
- OpenStreetMap.org Global Street Maps
- Intermap TerrainOnDemand (Highly Accurate 3D DEMs) [PREMIUM CONTENT]
- Landsat7 Global Imagery Mosaic (Natural Color, Pan-Sharpened)
- Landsat7 Global Imagery Mosaic (Pseudo-Color, Pan-Sharpened)
- SRTM Worldwide Elevation Data (3-arc-second Resolution) [Use <http://srtm.csi.cgiar.org/> if fails]
- ASTER GDEM Worldwide Elevation Data (1.5-arc-second Resolution) [Use <http://asterweb.jpl.nasa.gov>]

NEXRAD Radar Base Composite (US)

## 2.0 Formats Supported by LifeRing

1. Gridded Elevation Formats
2. ASPRS LiDAR LAS Files
3. ASTER DEM and L1A/L1B Imagery and MODIS imagery
4. Arc/Info ASCII Grid
5. Arc/Info Binary Grid
6. Arc/Info Export Format (E00)
7. BAG (Bathymetry Attributed Grid) Files
8. BIL/BSQ/BIP/Raw Imagery
9. BT (Binary Terrain) Elevation Grid Files
10. BigTIFF
11. COLLADA 3D Models
12. Canada 3D Files
13. Canadian Digital Elevation Data (CDED)
14. Carlson SurvCAD Grid File
15. DHM - Swiss DEM Files
16. DTED (Digital Terrain Elevation Data) Format
17. ERDAS Imagine Image Format
18. GLOBE (Global Land 1-km Base Elevation) Data
19. GSD (Swedish DEM Grid) Files
20. GXF (Geosoft ASCII Grid) Files
21. Geodas Grid (GRD98) Format
22. Geosoft Binary Grid Files
23. Global 2' Elevation Data (ETOPO2)
24. Global 30-arc-second Digital Elevation Data (GTOPO30)
25. Gravsoft Grid Files
26. HF2/HFZ Files
27. HTF (Hydrographic Transfer Format)
28. Hypack Matrix Files
29. Idrisi Format
30. International Bathymetric Chart of the Arctic Ocean (IBCAO) Files
31. JPEG2000 Files
32. Japanese DEM (JDEM/LEM/CSV) Format
33. LizardTech MrSID MG4 Lidar
34. NOAA TerrainBase Elevation Data
35. NTF Grid/Contour Format
36. PDS (Vicar) Files
37. PLS-CADD XYZ Files
38. QCT (Quick Chart) and QED Files
39. SRTM (Shuttle Radar Topography Mission)
40. STL Files
41. Surfer Grid (ASCII and Binary) Format Files
42. TerraScan .bin/.ts Format
43. Terragen Terrain Format
44. USGS Digital Elevation Model (DEM)
45. USGS Digital Elevation Model, GeoTIFF Format
46. USGS Digital Elevation Model, Spatial Data Transfer Standard Format (DEM/SDTS)
47. USGS National Elevation Dataset (NED) - ArcGrid, BIL, Grid Float Format
48. Vertical Mapper (MapInfo) Grid/Clutter Files
49. Vulcan3D Triangulation (.00t) Files
50. Zmap Plus Grid Files
51. Raster (Imagery/Scanned Map) Formats
52. ADRG Files
53. ASRP (Arc Standard Raster Product) and USRP Files
54. ASTER DEM and L1A/L1B Imagery and MODIS imagery
55. BIL/BSQ/BIP/Raw Imagery
56. BSB Nautical Charts
57. BigTIFF
58. CADRG and CIB Files
59. ERDAS Imagine Image Format
60. ERMapper Compressed Wavelet (ECW) Format
61. Erdas GIS/LAN Files

- 62. GRIB I and II Formats
- 63. GeoPDF® Files
- 64. HCRF (Hydrographic Chart Raster Format) File
- 65. Idrisi Format
- 66. Intergraph COT Format
- 67. JPEG Image with Embedded EXIF Position Information
- 68. JPEG Image with World File
- 69. JPEG2000 Files
- 70. KML/KMZ Formats
- 71. Landsat 7A FAST Format
- 72. LizardTech MrSID Data
- 73. MPR MPH (German Topo Map) Files
- 74. MapTech Nautical Charts (PCX Format)
- 75. MapTech Topo Maps and Aerial Navigation Charts
- 76. NITF - National Imagery Transmission Format
- 77. NV Verlag Marine Charts
- 78. OziExplorer OZFx2 and OZFx3 Formats
- 79. PCX Files
- 80. PGM Grayscale Grid Format
- 81. PNG Image with World File
- 82. QCT (Quick Chart) and QED Files
- 83. RIK (Swedish Topo Map) Files
- 84. USGS Digital Orthophoto Quads (DOQ), GeoTIFF Format
- 85. USGS Digital Orthophoto Quads (DOQ), JPG w/ Native Header Format
- 86. USGS Digital Orthophoto Quads (DOQ), Native USGS Format
- 87. USGS Digital Raster Graphic (DRG)
- 88. Vertical Mapper (MapInfo) Grid/Clutter Files
- 89. Zoomify Format
- 90. Vector Formats
- 91. ASPRS LiDAR LAS Files
- 92. Alberta Township System (ATS) Format
- 93. Anuga Triangulated Mesh Format
- 94. Arc/Info Export Format (E00)
- 95. AutoCAD DWG (DrawinG) File
- 96. AutoCAD DXF (Drawing Interchange File)
- 97. BAG (Bathymetry Attributed Grid) Files
- 98. CDF (GES Cartographic Data Format)
- 99. CML, CXF, and TAF (Italian Cadastral Exchange Formats)
- 100. COLLADA 3D Models
- 101. CompeGPS RTE, TRK, and WPT Formats
- 102. DBF (DBase III+) Files
- 103. DMDF (Digital Map Data Format) Format
- 104. DeLorme Text Files
- 105. Delft3D (LDB) Files
- 106. EMF (Windows Enhanced Metafile) Format
- 107. ESRI Personal Geodatabase Format (MDB) Files
- 108. ESRI Shapefiles
- 109. FCC Antenna Structure Registration (ASR) Files
- 110. GML (Geography Markup Language) Format
- 111. GPS TrackMaker
- 112. GPX (GPS eXchange Format) Files
- 113. Garmin PCX5 Format Waypoint (WPT), Route (RTE), and Track (TRK) Files
- 114. Garmin TCX (Training Center Database) Files
- 115. GeoPDF® Files
- 116. HTF (Hydrographic Transfer Format)
- 117. Idrisi Vector (VCT) Format
- 118. JPEG Image with Embedded EXIF Position Information
- 119. KML/KMZ Formats
- 120. LMN (Spectra Line Management Node) Files
- 121. LizardTech MrSID MG4 Lidar
- 122. Lowrance LCM (MapCreate) Format
- 123. Lowrance SonarViewer Format
- 124. Lowrance USR
- 125. MagicMaps IKT Files

- 126. MapInfo MIF/MID and TAB/MAP Formats
- 127. MapMaker DRA (Drawing) Files
- 128. Marplot MIE Files
- 129. MicroStation DGN Format
- 130. NIMA GNS (GeoNet Names Server) Format
- 131. NOAA DSDATA Geodetic Control, SDTS Format
- 132. NTF Grid/Contour Format
- 133. OCAD .OCD Files
- 134. OpenStreetMap (OSM) Files
- 135. OziExplorer Waypoint (WPT), Route (RTE), and Track (PLT) Files
- 136. PLS-CADD XYZ Files
- 137. Platte River ASCII Digitizer Format
- 138. Polish MP (cGPSMapper) Format
- 139. S-57 Digital Chart Files
- 140. S-63 Encrypted Digital Chart Files
- 141. SEGP1/UKOOA Seismic Shotpoint Format
- 142. SMT KINGDOM Software Planimetric Polygon Format
- 143. SOSI Files
- 144. SPS (Shell Processing Support)
- 145. STL Files
- 146. Surfer BLN Files
- 147. TAF (Italian Cadastral Exchange Format)
- 148. TIGER/Line Files
- 149. Tobin .bas (TDRBM II) Format
- 150. TomTom OV2 Files
- 151. USGS Digital Line Graph, Optional Format (DLG-O)
- 152. USGS Digital Line Graph, Spatial Data Transfer Standard Format (DLG/SDTS)
- 153. USGS Geographic Names Information System (GNIS)
- 154. USGS Land Use and Land Cover Data (LULC)
- 155. VPF (VMAP0, VMAP1, DNC) Files
- 156. Vulcan3D Triangulation (.00t) Files
- 157. WASP .MAP Format
- 158. XTF (eXtended Triton) Format